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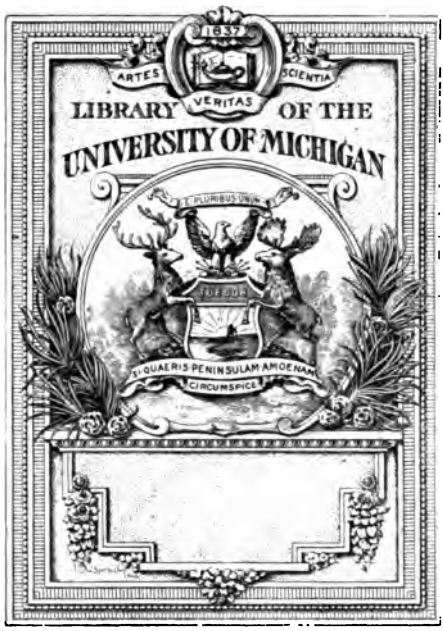
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THE

RETROSPECT

OF

PRACTICAL MEDICINE AND SURGERY,

BEING

A Half-Yearly Journal,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES

Edited by

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PREFACE TO PART VII

As many may probably read the present Number of The Retrospect of Medicine and Surgery, who will not have the opportunity of seeing those preceding, it may be as well, once more, briefly to state that the object of the work is to bring into one focus all the pithy materials of the numerous Medical Journals now published: omitting that matter, which, however interesting in many respects, is not of real and essential importance to the bed-side practitioner and truly practical man. There are so many Medical Journals published at the present time, and likely to be more, that it becomes absolutely necessary, if the active practitioner means to keep pace with the discoveries and improvements continually being made, that he should possess some such work as this, which will present to him at one view, every few months, and at a comparatively small expense, a summary of the most practical articles to be found scattered in so numerous a list of periodicals. By this means, every practitioner may go on taking in the one or two Journals which he is accustomed to, and may at the same time have a condensed account of all the rest—curtailed indeed considerably, but in fact giving every truly practical remark, and especially every really original observation and new mode of treatment: and those practitioners who do not take in any Medical Journal whatever, will now have the opportunity, in an easy and expeditious way, of making themselves as well acquainted with every necessary improvement, as those who read ever so much. The table will be spread ready for their repast, and the most practical matter will be brought before them ready digested, without the trouble of wading through some twenty-five different Journals and Periodicals.

This work will be especially useful to the busy practitioner who has not time to read much; to the country practitioner who has not the opportunity; and to the young practitioner who cannot afford it. At the same time it will not be discouraging those who have the time and opportunity to enter more fully into the periodical Medical Literature of the day.

The Editor respectfully invites the authors of all new Medical Works to communicate their discoveries or improved methods of practice to him; and at the same time make reference to those of their writings in particular which they consider to point out some original opinion or new mode of treatment. He will thus be able to lay before the profession, not only a bird's-eye view of medical *periodical* literature, but likewise to extend the view to the wider range of medical literature in general; taking care to keep his prime object in view (viz., the Treatment of Disease), banishing unfounded theory and opinion, and taking facts as his only guide; and endeavoring to point out to the younger members of the profession especially, those parts of the Medical Press which will be most likely to benefit them at the bedside of the patient.

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PRACTICAL MEDICINE,

&c., &c.

ART. I.—ON THE CONSTRUCTION AND APPLICATION OF INSTRUMENTS USED IN AUSCULTATION.

By C. J. B. WILLIAMS, M.D., F.R.S., &c., &c.

(Being the Substance of a Communication made to the Medical Section of the British Association at Manchester, in June, 1842.)

The acoustic examination of disease having been so profoundly as well as generally studied, it is not surprising that the instruments used in it should have wanted modifications to make them exhibit better the phenomena which increased experience and skill have discovered. To make these improvements, some knowledge of acoustic science is necessary; and it might seem to be the province more of the natural philosopher than of the physician, to suggest them.

But it must be borne in mind, that a good understanding of the ends in view, as well as of the instrument, is required. To suggest what a stethoscope ought to be, a knowledge of acoustics is not more necessary than an acquaintance with disease, and experience in its investigation. A want of these latter qualifications, in my opinion, renders some recent suggestions from the Professor of Natural Philosophy, at Edinburgh, of little value to practical men; and an imperfect acquaintance with the whole of the purposes and principles of the stethoscope seems to me apparent in other late proposals for the improvement of the stethoscope.

Twenty years' attention to the principles and practice of auscultation may perhaps warrant me in offering to the section a few remarks on the acoustic principles of means used in auscultation, and on the best mode of applying them with efficacy and convenience.

Laennec, the inventor of the stethoscope, had no accurate views of the principles of its construction. He declared that the instruments which he found the best were not made according to the commonly received laws of physics. Yet experience taught him that the solid cylinder does not convey breath sounds or voice sounds so well as a cylinder perforated and hollowed at its pectoral end. Many years ago I pointed out that this fact, which is unquestionable, is in perfect conformity with a law of acoustics, that sounds are best conducted by bodies of an elastic tension resembling that of the sonorous body. On the other hand, bodies differing in elasticity are bad recipients of each other's vibrations. Thus wood, although an excellent conductor of sounds generated in itself, or in other solids, receives but imperfectly those produced in air. But by thinning wood, and extending its surface in contact with air, it is much more readily affected by the vibrations of air, and becomes the best medium for transferring to air the sounds of denser solids; and this is the principle of sounding-boards.

The view which I originally gave of the principle of the stethoscope, represented its operation as varying with the source of sound: sounds produced in air (vocal and breath-sounds) being best transmitted by an enclosed column of air; those produced in solids (rhonchi, heart, and friction sounds) being most effectually communicated by rigid solids of the least density. This view I still hold; and I proceed to remark on the best mode in which the principle may be brought into operation. It has been lately questioned that the conducting power of the stethoscope depends at all on the air contained in the central canal and excavation. This doubt has arisen chiefly from an observation first made by Dr. Cowan, that plugging the central canal does not much impair the power of the instrument. Professor Forbes has repeated the same remark. I have made many experiments on this point, and the following are some of the results:

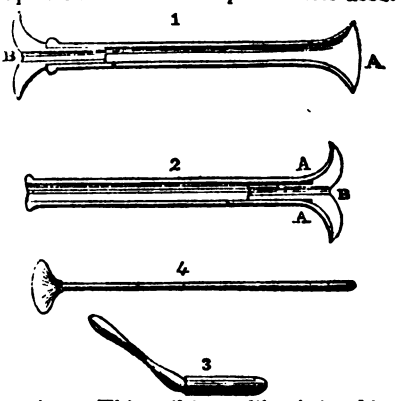
Stopping with a cork the pectoral end of the instrument greatly impairs its conducting power; stopping the ear end does so in a much slighter degree. But in any way stopping the tube impairs the transmission of sound; and to be

assured of this, it is not sufficient to judge by general impressions as to whether a sound is louder in one way than in another: we must resort to what may be called a *test sound* (as opticians use a test object); a sound just within the limits of audibility, such as the sound of expiration in a healthy subject, or a very faint cardiac murmur. When tried by such a test, the superior conducting power of the open tube becomes obvious. But the impeding effect of a stoppage in the tube becomes most evident in the flexible stethoscope, a cork inserted into the pectoral end of which altogether shuts out faint sounds, and very perceptibly impairs those that are louder. That the common stethoscope really conducts by its closed column of air as well as by its solid walls, is further proved by the following facts: Loud pectoral sounds, as that of the voice, heart, or a murmur, may be heard by bringing the ear end near the ear, without actual contact: the sound is then exclusively conveyed by the air, and may be totally intercepted by a plug. If a large hole be made in the side of a stethoscope, its conducting power is greatly impaired, especially for aereal sounds; but it is at once restored by closing the hole with the finger. The difference depends not only on the exclusion of extraneous sounds by the latter expedient, but also, and chiefly, on the superior power of conduction which a close column of air possesses. That the addition of a solid conductor, by that which stops the hole, is not concerned in the improvement, is clear from the fact, that solid tubes of the most slender walls avail as well as thick ones, so long as they preserve a close column of air within them.

The closed state of the column of air is the chief condition necessary to give air a high conducting power. Following the assertions of acoustic writers, that the pulses of sound pass through the air in straight lines, like rays of light, I formerly suggested that the pectoral end of the stethoscope should be hollowed into a very tapering cone, and that the whole interior should be made as smooth as possible, to promote the most direct reflection of sound. But this principle is more applicable to ear trumpets which receive sounds from the open air, than to the stethoscope, which receives vibrations from a solid enclosed surface. Air confined in a close tube vibrates as a whole, and its vibrations pass over angles, and through bends (as in a flexible tube), with a freedom which supersedes the idea of mere reflection; and although they must be transferred through a straight smooth tube more freeely than through a crooked and rugged one, the difference is less than might be expected without a knowledge of the properties of close tubes. The chief object in the formation of the hollow end of the instrument is to bring into close contact with the walls of the chest as large a surface of air as possible, and to convey the pulses of this air as directly as possible to the ear. It is at the same time desirable to avoid a large hollow within the instrument; because such a hollow causes such a conch-like or tinkling echo, from the repeated transverse reflection of the vibrations. A conical cavity answers very well for the sounds best transmitted by the air; but a trumpet end does not appear to be inferior, and it answers better for the communication of vibrations to the solid part of the instrument. I have before noticed the inferior power of a solid stethoscope. Some writers, who consider the stethoscope to conduct only by its solid walls, ascribe this inferiority to the weight of its mass, and suggest that if this be reduced by hollowing, the closed solid is still the best instrument. To test this principle I had a thin stethoscope made of light deal, and closed at its pectoral end by a very thin plate of the same material: this proved to be decidedly inferior to instruments with an open bore. Yet this instrument reversed, with its closed end applied to the ear, and its open end on the chest, communicated all diffused sounds uncommonly well; this can be explained only on the principle of the large surface of the hollow of the instrument enabling the solid part to receive the vibrations. But finding the considerable share which the solid walls of stethoscopes have in communicating sounds, and finding by experiment that their efficacy depends chiefly on the formation of their pectoral end, by which they receive the vibrations, I have devised a form of instrument which qualifies them for this purpose better than any instrument now in use. It is the bugle or trumpet end (as seen in fig. 1, A), the edges of which being made very thin, and applied flat on the

walls of the chest, are most readily affected by their vibrations. The instrument thus constructed, of a light rigid wood, such as sycamore, if tried with a test sound, will be found for most purposes superior to the stethoscopes hitherto used.

But most stethoscopes are provided with a perforated stopper, the chief use of which is to shut out diffused sounds, and to transmit by the central canal aereal sounds, from a limited spot; it is thus of great use in distinguishing pectoriloquy from diffused bronchophony. I find that the same object can be pretty well attained by reversing the new stethoscope, applying the ear end (B) to the chest, and the hollow end (A) to the ear; this end having some extent of flat surface, fits the ear very well, and is not hollow enough to produce much conchal sound.



An inconvenience at first experienced with this instrument was its fragility, being easily cracked or crushed in the pocket. This evil is readily obviated by making the ear end (B, as seen in fig. 2) to take off and fit into the hollow end (A); which, thus, not only strengthens the thin part, but also renders the instrument more portable. For this purpose, and for that of shutting out diffused sounds, the ear end should be made stout, and of a tough material, as box or yew wood.

The stethoscope, in its packed or portable state (fig. 2), is well adapted to render visible the extent and direction of the pulsations of the heart or arteries, and of the motions of respiration. Held by its broad end as a base firmly applied to the chest, its small end exhibits, in an exaggerated degree, the movements of its base. Laennec used to exhibit the impulse of the heart by the lifting of his stethoscope; but this instrument does this much more exactly, and likewise shows the direction of the impulse. As the flexible stethoscope has been recommended by some respectable authorities (although I believe that it is very little used), I take this opportunity to state my objections to it, which are founded on considerable experience in its use; for since Dr. Stroud, who first employed it, recommended it to me seven or eight years ago, I have given it repeated and varied trials. When tried by a test sound, I have found it much inferior in conducting power, for all of the more delicate sounds of the breath and heart. Louder sounds, such as those of bronchial or cavernous breath and voice sounds, it exaggerates by the addition of a conchal echo, which renders it very difficult to distinguish them from each other. It is much better adapted for the heart sounds, and is certainly the best instrument for exploring venous and arterial murmurs, because it may be applied with a less degree of pressure than the common stethoscope. The chief advantage, however, is in its flexibility, which permits it to be applied to the patients in postures in which the straight stethoscope can scarcely be used. On the other hand it has the inconvenience of requiring the use of both hands to keep it applied; so that the auscultator has no hand free to prevent the friction and contact of the clothes, &c., or to steady himself whilst he leans over the patient. On the whole, although I often employ the flexible instrument for particular purposes, I am of opinion that no one who uses it only can be an accurate auscultator.

Percussion.—Since I explained the principle of percussion in 1835, I have had almost daily opportunities of proving the accuracy of that explanation, and of deriving advantage from the varied modes of percussion which the clear understanding of the principle suggested. So delicate do I now find this test, that in many instances it discovers disease when other physical signs are negative. The principle is briefly this: sound, on percussion, is derived from the elastic tension of the bodies which the stroke reaches, and depends on the conjoint vibration of these. Thus gentle percussion, and flat percussion, reaches the

superficial parts only, and is toned by them: forcible percussion derives its sound from deep seated parts also. The character of the stroke-sound varies not only in loudness and clearness, but also, and most constantly, in *pitch; the deepest tones* being the healthiest in all cases, except a few of flaccid emphysema and pneumo-thorax. In some cases of pneumonia, pleurisy, and even tubercle, the stroke sound is much louder on the diseased than on the healthy side; this is where the clearness proceeds from the resonance of the subjacent tubes, which the condensation of the tissue of the lung enables the stroke to reach. But in all these cases the morbid character of the sound is proved by its note being higher than on the healthy side. In cases of early phthisis, in which the auscultator may be doubtful as to the comparison of stroke-sounds of corresponding points on both sides, he may sometimes be assisted by applying his ear to the chest at the same time that he strikes. Thus, in exploring below the clavicles, he may use gentle immediate percussion there with the fingers, while he applies his ear in the scapular region; but on comparing the sound with that of the opposite side, he must be careful to listen as well as to strike on corresponding points. Explored in this way, the clearness or loudness of the stroke is less easily distinguished than the note or pitch, the difference of which is sometimes manifest when it is not so in the usual mode of examination. In percussion of the abdomen, it is useful to employ different degrees of pressure with the pleximeter or the hand struck. Strong pressure with forcible percussion, displaces the superficial contents (gas and liquid), and elicits the sound of deep-seated parts. On the other hand, the gentlest percussion, without pressure, will detect the superficial dulness of a layer of serum too thin to be palpable by fluctuation.

For general purposes, I consider the fingers to be the best instrument for percussion; and the various ways in which they may be used constitute one of their best recommendations. There are, however, a few cases in which an instrument for percussion will give more accurate indications; and I will describe one which is very efficient as well as very simple. Percussion-plates generally, are too large to be applied closely between the ribs; and when made of hard materials they cause a clacking noise by the stroke on their surface. The hammers of Drs. Burne and Winterich are not only formidable in their appearance (that of Dr. Burne is really frightful), but their strokes may vary in force, and their sounds in character, according to the direction in which the hammer falls, whether quite perpendicular or not. To avoid these objections, I have for a pleximeter a stout narrow piece of whalebone (about four inches long, fig. 3), slightly bent by heat, so that one end forms a handle, whilst the other is applied to the chest; the latter part may be covered with buff leather and velvet, to deaden the clack of the surface. The hammer (fig. 4) is made of an oblate spheroid of lead (three quarters of an inch in long diameter) also covered with leather and velvet, with a small rod of whalebone (four or five inches long) for its handle. The pleximeter fits like a finger on or between the ribs, and is firmly and conveniently applied to any part. The hammer head being circular, like that used by geologists, can scarcely vary in the direction of its stroke, and has weight enough to elicit deep-seated as well as superficial sounds with very little force of stroke. The elasticity of the handles of both greatly facilitates their operation. (These instruments may be obtained from Coxeter, near University College, and from Grumbridge, 42 Poland-street.)

Medical Gazette, Dec. 16, 1842, *p.* 400.

2.—USE OF TARTRATE OF ANTIMONY WITH OPIUM IN THE ADVANCED STAGES OF NERVOUS FEVER.

By Robert James Graves, M.D., Dublin.

[The following is from Dr. Graves' work on Clinical Medicine, and is an important addition to practical medicine. After speaking of the use of tartar emetic in some cases of sthenic delirium, Dr. Graves observes:]

"In the two preceding cases I was guided by ordinary principles, recognized by all physicians, and according to which the exhibition of tartar emetic is recommended in fever whenever there is undoubted evidence of determination

of blood to the head, producing headache, loss of sleep, and delirium. In the cases which follow, tartar emetic was exhibited at a period of fever, and under circumstances that were, with respect to the exhibition of this remedy, not less novel than important. The principles which led me to this practice have long been established, but, nevertheless, the practice is entirely new, and (I may say it with pride for it has already been the means of saving many valuable lives) it is entirely my own.

"Shortly after the commencement of our present session, Mr. Cookson, a pupil at this hospital, and remarkable for his diligent attention to clinical pursuits, caught fever while attending our wards, in which many cases of the present epidemic were then under treatment. His fever was of an insidious nature, not characterized by any prominent symptom, nor exhibiting any local disease to combat or any tendency to crisis. For the first seven or eight days, with the exception of a headache, which was much relieved by leeching, he seemed to be going on very well; his skin was not remarkably hot; he had no great thirst, nausea, or abdominal tenderness; his pulse was only eighty-five; and he had sweating, which was followed by some relief. About the eighth or ninth day the pulse rose, and he began to exhibit symptoms of an hysteric character. Now in every case of fever, where symptoms resembling those of hysteria come on, you should be apprehensive of danger. I do not recollect ever having met with a single case of this kind which did not terminate in nervous symptoms of the most formidable nature. I prescribed at the time the usual anti-hysteric medicines, but without any hope of doing good, knowing that these symptoms were only precursory to something worse. I also, as a precautionary measure, had leeches applied to his head. The fever went on, the headache became more intense, he grew nervous and sleepless, and fell into a state of great debility. On the fourteenth day of fever his tongue was black and parched, his belly tympanitic; he was passing every thing under him unconsciously; he had been raving for the last four days, constantly attempting to get out of bed, and had not slept a single hour for five days and nights. Dr. Stokes, with his usual kindness, gave me the benefit of his advice and assistance at this stage of Mr. Cookson's illness, and we tried every remedy which experience could suggest. Blisters were applied to the nape of the neck, the head was kept cool by refrigerant lotions, the state of the belly attended to, and, as we perceived that the absence of sleep was a most prominent and distressing symptom, we were induced to venture upon the cautious use of opium. It was first given in the form of hydrarg. c. creta, with Dover's powder, with the view of relieving the abdominal symptoms as well as procuring sleep. This failing in producing the desired effect, we gave opium in the form of enema, knowing its great power in the delirium which follows wounds and other injuries. This was equally unsuccessful with the former. He still was perfectly sleepless. We came again in the evening, and as a last resource, prescribed a full dose of black drop, and left him with the conviction that if this failed he had no chance of life. On visiting him next morning at an early hour, we were highly mortified to find that our prescription had been completely unsuccessful; he had been more restless and delirious than ever. Here was the state in which we found him on entering his chamber at eight o'clock on the morning of the fifteenth day of his fever: He had universal tremors and subsultus tendinum, his eye was suffused and restless, he had been lying for some days entirely on his back, his tongue was dry and black, his belly tympanitic, his pulse 140, quick and thready, his delirium was chiefly exhibited in short, broken sentences, and in a subdued tone of voice; and it was now eight days and nights since he had slept. Here arose a question of great practical importance. How was the nervous agitation to be calmed and sleep produced? Blisters to the nape of the neck, cold applications, and purgatives had failed; opium in various forms had been tried without the slightest benefit; if sleep were not speedily obtained he was lost. At this emergency a mode of giving opium occurred to me which I had never thought of before. Recollect what his symptoms were at this period; quick, failing pulse; black, dry, tremulous tongue; great tympanitis; excessive prostration of strength; *subsultus tendinum*; extreme nervous agitation, constant

muttering, low delirium, and total sleeplessness. I said to Dr. Stokes that I wished to try what effects might result from a combination of tartar emetic and opium; I mentioned that I had given it in cases of delirium tremens with remarkable success, and thought it worthy of a trial under the circumstances then present. Dr. Stokes stated in reply, that he knew nothing with respect to such a combination as adapted to the case in question, that he had no experience to guide him, but that he would yield to my suggestion. We, therefore, prescribed a combination of tartar emetic and laudanum in the following form, which is that in which I generally employ the remedies in the treatment of delirium tremens: (℞. Antimonii tartarizati grana quotuor, tinct. opii drachmam, misturæ camphoræ, ℥viij.) Of this mixture, a table spoonful to be taken every second hour. The success of this was almost magical. It is true that it vomited him; after taking the second dose he threw up a large quantity of bile, but it did him no harm. After the third or fourth dose he fell asleep, and awoke calm and refreshed; he began to improve rapidly, and soon recovered."

A great number of illustrative cases are given by the author, accompanied by important remarks. It is somewhat difficult to convey in words a proper idea of the state which indicates this treatment; particularly if we have to instruct those who have no real familiarity with fever at the bed side. But it may be described to be a state generally met with in the advanced stages of bad nervous fevers, and more particularly of those in the upper classes of society—a state in which many symptoms of extreme nervous excitement are met with, such as subsultus, watchfulness, muttering delirium, ferox, or even convulsions, and all this without cerebral congestion or inflammation; although, in the earlier periods of the same case, these very conditions may have existed. This is the condition so constantly maltreated by the exclusively antiphlogistic school. But even a certain amount of congestion does not contraindicate the remedy. In such cases, the tartar emetic is increased to the amount of four grains in the eight ounces, while the laudanum should not exceed half a drachm; but where the nervous symptoms predominate, the laudanum may amount to one drachm, and the tartar emetic to two grains. No general rule, however, can be laid down; and the practitioner must, in all cases, watch the effect of the medicine from hour to hour, until he ascertains whether it agrees with the patient or not.

"Where a life is at stake, you must spare no pains, and must not reject a remedy, because its power is rendered an instrument of good or evil, accordingly as it is administered carefully or otherwise." This practice, like many other improvements, has been misunderstood, cavilled at, and its originality questioned, when its adoption became inevitable. "Some there are who will take occasion to remark that I can have no claim to originality on this occasion. But all who have watched my practice in the hospital, nay, all who have taken the trouble of reading my lectures and successive publications on this subject, will at once acknowledge that I proceeded on this path of investigation with no other guide but an analogy derived from an observation of the effects of tartar emetic and opium in delirium tremens, a disease undescribed in the time of Marryatt. Every one the least conversant with the treatment of fever in private and in hospital practice in Dublin, London, and Edinburgh, will allow that no one during the present century ever taught or practised the exhibition of tartar emetic at the stage of typhus fever in which I have recommended it. Not a single hint at such a treatment is given in any of the numerous contributions on the treatment of typhus, which form the valuable work edited by Dr. Barker and Dr. Cheyne. Where is there even one allusion to this practice in Armstrong, Smith, Tweedie? And what is said of it in Good, Thomas, Mackintosh, or in the Cyclopedia of the Practice of Medicine? Where is it mentioned or inculcated in the Edinburgh Medical and Surgical Journal, or in Dr. Johnson's Medico-Chirurgical Review? No where; although the treatment of fever is often the subject of anxious discussion.

"So far suffices with regard to the novelty of the matter, for it is useless to argue with persons so stupid as to confound the practice I recommend with the well-known and popular use of tartar emetic as an emetic or a diaphoretic in the *commencement* of febrile diseases generally. That I did not come upon this

method sooner, I regret infinitely, for since its adoption, my practice in hospital and in private has been much more fortunate than formerly."

Our experience fully bears out the statements of the author: and we have repeatedly seen cases in which opium alone failed to procure rest, yet in which the combination had the happiest effect. We had an opportunity of witnessing a most remarkable instance which lately occurred in the practice of Dr. Lees, of this city, who has kindly furnished us with notes of the case; the remedy appeared to have an almost magical effect. The patient, a gentleman of nervous temperament and high literary attainments, and suffering under his first attack of typhus, had an imperfect crisis on the 14th day. His pulse had been 140; he was incoherent, looked wildly about him, and towards morning became extremely low, and said he was dying. He then broke out in profuse perspiration, had great tremor of the hands, and appeared in extreme terror. He got some stimulants, and soon fell asleep, awaking in 4 hours much refreshed, with his pulse having fallen to 112. On the sixteenth day he again became greatly excited. He struggled violently, his features twitching, and his pupils greatly dilated. His state now became terrible. The subsultus amounted to almost convulsion; his pulse 132, and miserable; opium and musk were given without effect. The head was shaved; but he continued as violent as ever, thrusting downwards in the bed, sobbing and screaming, and with the subsultus like tetanic shocks. Under these circumstances, the following was ordered by Dr. Lees:

℞. Tartrat. Antimonii, gr. vj.; Liquoris Opii sedativi, ʒj.; Misturæ Camphoræ, ʒviij.

Of this mixture he got one ounce in a single draught. He fell asleep, and slept calmly for three hours, when he awoke in great terror; all the bad symptoms returned. Another ounce was administered; and soon after a third with the same happy effect. Thus he continued to the evening of the next day, comparatively rational, and taking nourishment, when he began to look wild, got restless, and tossed himself about; his tongue was dry and glazed. Another dose was administered, which did not produce sleep; but the patient lay quiet, passed much urine, and from this time began to recover. The gentleman is now in perfect health. And we hesitate not to say, that in our experience of typhus fever occurring in the upper ranks of society, we never witnessed a recovery so distinctly attributable to medicine.

Dublin Journal of Medical Science, March, 1843, *p.* 145.

3.—TREATMENT OF SCURVY.

M. Irven has introduced a new remedy for the cure of this disease. He administers tincture of cantharides; at first, in doses of from ten to twenty drops, three times a day, increasing the quantity taken in the twenty-four hours, according to circumstances, to about eighty drops. At the same time that an improvement in the general health becomes perceptible the urine becomes clear, and is found to contain albumen, which is said to be uniformly absent from the urine of scorbutic patients.—*London Lancet, Dec.* 31, 1842, *p.* 497.

4.—On the PHYSICAL AND PATHOLOGICAL CHARACTERS of Urinary Deposits. By Dr. Golding Bird, F.L.S., &c.

[We are glad to perceive the growing attention which is being paid by the profession to urinary diseases, and to the peculiar characterics of urinary deposits. We have repeatedly directed the attention of our readers to the different papers on this interesting subject, which have been published in the medical journals; and we shall take the liberty on the present occasion of drawing largely from those of Dr. Golding Bird, just published in the Medical Gazette, and endeavor to spread before the reader an abstract of the most practical parts of them. The value of this kind of information arises, as Dr. Bird justly observes, "from the urine being a secreted excretion; and not like the alvine evacuations, being an excretion made up in great part of the debris and effete portion of the ingesta, and therefore liable to have its indications masked by a series of causes which are nearly without action on the urine."]

The urine, in a physiological sense, must be regarded as arising from three sources, each of which, however, acts in preserving the equilibrium of the delicately adjusted balance of the several functions of the body. The effects of large aqueous potations in producing a copious discharge of pale urine, at once shews one source of the secretion, and points out one of the great functions of the kidneys, viz. the pumping off any excess of fluid which may enter the circulation. The peculiar character of the urine passed just after the digestion of a meal is complete, partaking often of the physical or chemical characters of some element of the food, indicates a second great function of the kidney, viz. the removing from the system those portions of the ingesta which have been absorbed whilst passing through the small intestines, and thus have entered the circulation, or of excreting from the circulating mass the, often noxious, results of mal-assimilation: of the former, the fœtid urine voided after eating a meal of asparagus may be taken as an example; and of the latter, the abundant elimination of oxalic acid from the blood in many forms of irritative dyspepsia will serve as an illustration. The third and very important function performed by by the kidney is its serving as an outlet, to evolve from the animal organism those elements of the disorganization of the tissues which cannot serve any ulterior purpose in the economy, and which cannot be thrown off by the skin or lungs. I need not, gentlemen, remind you, that every moment we live each atom of our frame is undergoing some change or other; that old matter is absorbed, and ultimately thrown off by the excretions, while an equivalent quantity of new matter is deposited to supply its place. The old matter absorbed is not thrown off as a dead tissue, but its elements become re-arranged: a portion, especially its carbon, has to perform an important secondary office in the economy before it is got rid of, whilst its azotized elements are excreted by the kidney; and this constitutes a third variety of urine in health.

Of these three forms of urine distinguished by their source, and often by their physical appearance, the first has been termed the urine of drink, *urina potus;* the second the urine of the chyle, *urina chyli;* and the third the urine of the blood, *urina sanguinis;*—and you must never lose sight of these distinctions in investigating the indications afforded by the urine. This, as well as many other branches of physiological chemistry, has been invested with an amount of interest of which it was previously destitute by the researches of Professor Liebig, who has proved to a demonstration the generally simple relation borne by the elementary constitution of blood and of the animal tissues to the secretions, as well as by the latter individually to each other; and even if the analysis on which these bold inductions are founded be, as is quite possible, shewn to be not rigorously correct, still the reasoning will hold good with regard to general cases, even if it should fail in particular instances.

A single illustration will be sufficient to point out the high degree of beauty and interest thrown round these researches by the labours of those philosophers who have devoted their time and talents to the investigation of the chemistry of life. The analyses of several chemists quoted by Professor Liebig have shewn that the ultimate composition of flesh is constant, and is identical with that of blood considered as a whole, and not regarding its proximate composition; thus, when animal fibre is taken into the stomach, it undergoes a kind of imperfect solution, constituting a stage of the primary assimilation of Dr. Prout, and is carried into the circulation, presenting nearly the same chemical composition as the blood with which it becomes mixed, and undergoes certain changes in the lungs, where it assumes probably a more highly vitalized condition, connected primarily with the conversion of its albumen into self-conagulating fibrine; which bodies, however much they may happen to differ in their physical molecular arrangement, are identical in ultimate composition; and, ultimately reaching the nutrient vessels, the elements of the food are deposited in the substance of a tissue—as a muscle, for example. Ere these new molecules can be deposited, room must be made for them by the removal of the old; and then comes into play one of those beautiful effects of vital chemistry whose simplicity now excites our delight, as much as the mystery which so long enveloped did our wonder. The exhausted atoms of the muscle cannot be re-

moved as fibres, but its elements must be re-arranged, so as to enter the circulation and be carried to other organs; therefore it undergoes a second assimilation; water and oxygen are conveyed to the atoms of muscle, and the result is a re-arrangement of elements, which, whilst it enables the old tissue to be removed with facility, furnishes the pabulum for other and important secretions. Thus, if to the composition of muscular flesh we add oxygen and the elements of water, we have all the elements necessary for the production of the essential ingredients of bile and urine.

	C.	N.	H.	O.
Two equivalents of muscular tissue - - - - - -	96	× 12	× 78	× 30
Four equivalents of water - - - - - - - -			4 ×	4
Eight equivalents of oxygen - - - - - - - -				8
	96	× 12	× 82	× 42
One equivalent of the organic constituents of bile	76	× 2	× 66	× 22
One equivalent of uric acid - - - - - - - -	10	× 4	× 4	× 6
Three equivalents of urea - - - - - - - -	6	× 6	× 12	× 6
Four atoms of carbonic acid - - - - - - - -	4			8
	96	× 12	× 82	× 42

On this hypothesis the muscular tissue is carried into the circulation, combined with water and oxygen; the latter, by uniting with its carbon, in all probability aids in keeping up the temperature of the body; and, on reaching the glandular structure of the liver, 76 carbon, 2 nitrogen, 66 hydrogen, and 22 of oxygen, are, as it were, filtered off in the form of bile, destined to play an important part in the functions of the body before they are ultimately expelled. The kidneys remove the more highly azotized portions in the form of urea and uric acid, whilst the carbonic acid, formed by slow combustion of the carbon of the muscles, becomes exhaled from the surface of the skin or pulmonary membrane, and thus, by a beautiful exertion of that wonderful chemist, *life*, the exhausted fibre is finally expelled from the animal structure.

Let us take a view of the physiological relations borne by the urine to other secretions. We have already noticed the fact of its constituting the stream by which a host of noxious ingredients, either formed within the body, or added from without, are washed away. There is yet another property common to all secretions, viz. their power of temporarily, and within certain limits, compensating each other's action. Thus, so long as the functions of the skin and kidney bear a normal relation to each other, all goes on as in health; a limpid secretion from the one, and an insensible exhalation from the other, announce that a just balance obtains between these two functions. But let the action of the cutaneous function be increased, so that more than a normal amount of fluid escapes from the skin, the kidney compensates for this by secreting a smaller bulk of fluid; so that the urine becomes concentrated, and rises in specific gravity; and thus the balance is for a time preserved, and no greater amount of fluid is drained from the body than in health. If the liver be deficient in its power, either from a mechanical or organic cause, highly carbonized products are eliminated with the urine; and so in a host of similar cases, the possible occurrence of which must never be forgotten in investigating the characters of urine in disease.

[The next important object in the investigation of urine is to ascertain its physical characters, as its density, colour, consistence, odour, and optical properties. We need no. here particularize the mode of ascertaining its density, as it must be known to every one that the gravimeter or hydrometer is especially adapted to this object. When once we have found out

the density of urine, we can soon discover, by means of the accompanying table, the quantity of solid matter which is passing out of the body in a given time, through the kidney. This table is drawn up by Dr. A. Becquerel, as far as 1·032, and has been completed from the observations of Dr. Bird.

DENSITY.	Water in 1000 grains.	Solids in 1000 grains.
1001	998·35	1·65
1002	996·7	3·3
1004	993·4	6·6
1006	990·1	9·9
1008	986·8	13·2
1010	983·5	16.5
1012	980·2	19·8
1014	976·9	23·1
1016	973·6	26·4
1018	970·3	29·7
1020	967·	33·
1022	963·7	36·3
1024	960·4	39·6
1026	957·1	42·9
1028	953·8	46·2
1030	950·5	49·5
1032	947·2	52·8
1034	943·9	56.1
1036	940·6	59·4
1038	937·3	62·7
1040	934·	66·
1042	930·7	69·3
1044	927·4	72·6
1046	924·1	75·9

[When we know the density of urine we can know from a single inspection of the above table, the amount of solids and water present in 1000 grains, and we can then calculate from the quantity of urine passed in twenty-four hours, how much solid matter he is parting with in that period.]

To apply the table to the discovery of the solids in a given measure, it is necessary to bear in mind that the standard pint measure holds exactly 8750 grains of distilled water. As an example, I have a patient labouring under diabetes mellitus now under my care, who, in the last twenty-four hours, has voided five pints of urine of the density 1·040. On referring to the table we find that 1000 grains of urine of that density contain 66 grains of dry solids; therefore the pint, or 8750 grains, will contain 577·5 grains; for

$$\frac{8750 \times 66}{1000} = 577{\cdot}5, \text{ and as } 577{\cdot}5 \times 5 = 2887{\cdot}5,$$

it follows that five pints of urine will contain 2887·5 grains, or rather more than six ounces of dry solid matter. *Medical Gazette, Feb.* 10, 1843, *p.* 678.

[When urine is discoloured, it partakes more or less of a red, brown, or a greenish brown colour; and almost all variations of colour approximate more or less to these hues. Dr. Bird has drawn up a table which shews at once what is the probable cause, and what are the best meant of diagnosis. If the colour is red, it may be owing to A. Purpurine, B. Blood; if to *purpurine*, it shews some portal derangements, and if constant, some organic mischief of the liver or spleen. Detected as follows: Nitric acid produces deposit of uric acid—no change by heat; alcohol digested on the extract assumes a splendid purple colour. Density moderate.—If owing to the blood, it shews hæmorrhage in some part of the urinary passages, or Fever, and is detected as follows: Nitric acid produces a deposit of albumen, coagulation by heat; the microscope discovers floating blood discs.—If urine be of a brown colour, it may be owing to its being in a *concentrated state*, in which case nitric acid produces a deposit of uric acid; after being warmed a few drops of hydrochloric acid produces a fine crimson or purple colour. Density high.—Or the brown colour may be owing to the presence of Bile, in which case a drop of nitric acid falling on the urine in a white saucer, produces a transient play of colours, in which green and pink predominate. Hydrochloric acid produces a permanent green tint.]

When the urine, by repose, becomes covered with a thin membrane-like scum, a *pellicle* is said to exist; when the substance which produces the opacity floats in detached portions near the surface it is said to form a *cloud;* and when this falls towards the base it was formerly called an *eneorema;* the term *sediment* or *hypostasis* being applied to a positive deposit collected at the bottom of the vessel. The terms pellicle, cloud, and sediment, are still retained as general terms, but not used for the purpose of distinguishing any specific form of deposit. It very frequently happens that deposits do not become visible in the *urine, until after* it has cooled down to the temperature of the atmosphere; this

is particularly the case with those which are soluble in warm water, as the urates, but more especially the urate of ammonia, a substance which constitutes the great bulk of the red and fawn-colored amorphous deposits. Sometimes no deposit can be detected until after a few hours' repose, as in the case of those crystallisable ingredients which either fix on the sides of the vessels or appear entangled in the urates of mucus, as in the case of uric acid when present in small quantity, and of the triple phosphate. It is quite possible also for a crystalline substance to be diffused through the urine even in large proportions, and yet on account of the minuteness of the crystals, and of their density not very greatly differing from the fluid in which they exist, they may remain suspended for a very long time. This is remarkably the case with oxalate of lime, which often remains diffused through the urine even for days, and thus frequently escapes detection.

Classification of Deposits.—For the purpose of simplifying the examination of these various deposits, it is necessary to adopt some classification, and I am accustomed to divide all the deposits occurring in urine into the three following classes:—1. Deposit composed essentially of ingredients formed directly or indirectly from the metamorphosis of tissues—uric acid, urates, uric oxide, oxalate of lime, cystine, carbonate of lime. 2. Deposits composed of ingredients of inorganic origin; combinations of phosphoric acid with magnesia, ammonia and lime, silicic acid. 3. Deposits consisting of organized products—blood-discs, pus, mucus, muco-pus, organic globules, ferment, confervoid organisms.

First class of deposits (non-organized products of organization).—I shall first call your attention to those deposits which we meet with in urine, composed chiefly of uric acid. The normal proportions of this substance, which leaves the system in twenty-four hours, is 8.1 grains. There can be no doubt of the correctness of Dr. Prout's opinion, notwithstanding the statements of many continental writers to the contrary, that the greatest proportion, if not all this quantity, exists combined with ammonia. Uric acid requires, according to Dr. Prout's accurate observations, 10,000 times its weight of water at 60° for its solution; whilst there does not exist in urine quite 2500 its own weight. Hence it is utterly impossible for it to exist in a free state, without supposing the existence of causes modifying its solubility which the state of chemical knowledge by no means justifies. If, on the other hand, the uric acid exists in combination with ammonia, we see that it must necessarily remain dissolved at ordinary temperatures in the water of the urine. Urate of ammonia is soluble in 480 times its weight of water, and the 8·1 grains of uric acid, being the mean quantity secreted in twenty-four hours, requires, on account of its weak saturating power, but 0·82 grains of ammonia to neutralize it; and the 8·92 grains of urate of ammonia thus produced require but 4·312 grains of water for solution. Hence it is obvious that there are more than four times the quantity of water present in the urine than is necessary to hold the acid dissolved, if it exist in combination with ammonia. The most plausible objection which you will find urged against Dr. Prout's hypothesis is that advanced by Becquerel and others—viz. that a single drop of nitric acid is sufficient to separate all the uric acid contained in a considerable quantity of urine, which could hardly be the case if it really was combined with a base. This, however is an objection much more apparent than real; for having learnt that 8·1 grains of uric acid are present in 19752, or rather more than forty ounces of urine, it is obvious that less than a single drop of nitric acid ought to cause all the uric acid present in half a pint to be deposited in crystals, if it existed in combination with ammonia, or, indeed, any other base. For the quantity of ammonia required to hold the uric acid dissolved in half a pint of urine would be about 0·2 grain, which would be exactly neutralized by about 0·8 grain of fluid nitric acid, or less than a single drop.

If healthy urine be slowly evaporated in an air-pump vacuum, it soon becomes turbid, from the formation of clouds of urate of ammonia. The same thing occurs if healthy urine of rather high specific gravity be immersed in a freezing mixture. These facts, taken collectively, appear to me to be quite conclusive in favour of Dr. Prout's view of the manner in which uric acid exists in urine.

We may find uric acid, *or its compounds, present* as deposits in urine, with-

out their really existing in excess; for if the quantity of water excreted from the urine falls below one-fifth the natural proportion, urate of ammonia will necessarily appear on cooling, in consequence of there not being sufficient water present to hold the whole dissolved. Again, if a free acid be eliminated from the system by the kidneys, this will combine with the ammonia, and cause the uric acid to be deposited as a crystalline sediment. From numerous observations it appears that the quantity of uric acid excreted in the course of twenty-four hours may vary from six to ten grains, without showing any very material deviation from health. In all states of general febrile excitement occurring in persons previously healthy, an increased excretion of uric acid, free or combined, occurs: this is peculiarly the case in many functional or organic lesions of the liver or lungs, especially if the cutaneous exhalation be obstructed. In many cases of heart disease this also occurs. In one of enormous hypertrophy, in a lad lately under my care, upwards of twenty grains of uric acid appeared in the course of twenty-four hours in the form of a coarse crystalline deposit, independently of a portion present in solutions combined with ammonia. As a general rule, in adynamic states of the system, and diseases in which ammonia preponderates, the proportion of uric acid falls much below the healthy average.

Urine depositing uric acid is generally unusually acid, and possesses a high colour, often increasing with the amount of deposit. The latter is always more or less crystalline, and does not disappear on warming the urine, which at once distinguishes it from deposits of its saline combinations. The specific gravity is generally rather high, usually exceeding 1·020: and in these cases an excess of urea is often met with; so that, on adding a few drops of nitric acid to some contained in a watch glass, crystals of nitrate of urea are formed in a short time.

Urine depositing urate of ammonia varies extremely in tint, according to certain modifications of the colouring matter present. The most frequent modifications are the following:—Firstly, a rather pale-coloured urine of moderate density, as about 1·018, which, by cooling, lets fall a copious fawn-coloured deposit, resembling so much bath-brick grated into the fluid, and readily disappears on applying a gentle heat to a little contained in a spoon. This is frequently of transient occurrence, and appears so constantly on any interference with the cutaneous transpirations, that every old woman will diagnose the existence of a "cold" when this state of urine is present. Secondly, the urine, when febrile excitement prevails, often assumes a brown hue, varying from the colour of ale to that of brandy, generally being of high specific gravity, often above 1·023, and depositing, on cooling, a reddish-brown deposit of urate of ammonia, constituting one of the forms of lateritious or brick dust deposit, which, like the variety I have just described, readily disappears by heat. It is this form of urine which is rendered opaque by the addition of a drop of nitric acid, especially if added before all the urate has been deposited. This opacity depends on the separation of uric acid in an amorphous form, and may readily be mistaken at first sight for a deposit of albumen. This phenomena is constantly presented by the urine passed in the first stages of continued fever.

Thirdly, in well-marked affections of the portal system, especially when connected with organic disease of the liver or spleen, or when suppuration, especially of a strumous character, is going on in the body, the urine is found to possess, in many instances, a deep copper colour, often verging on crimson. This, I believe, depends on the presence of a peculiar colouring principle, to which I have ventured to give the conventional term of *purpurine* (Guy's Hospital Reports, 1842) to distinguish it from the purpurate of ammonia of Dr. Prout, the murexid of Liebig, which I confess I have been unsuccessful in detecting in the pink deposit of which it was considered the pigment. When urate of ammonia is deposited from such urine, it combines with the pink pigment, forming a kind of lake, and which generally but partially disappears on the application of heat to the urine, unless a little water be previously added. This deposit varies in hue from a pale pink to a most splendid purple. To appreciate the beauty of the colour, the deposit should be collected by filtering the urine through white blotting paper. One of the specimens I now shew you is from a patient with inflammatory jaundice, and the other from a person sinking of phthisis. Many

of you have had an opportunity lately of seeing a fine example of this in a patient of Dr. Addison's, in Billet ward, labouring under a well-defined tumour in the region of the liver, attended with obscure fluctuation; and whose case, as many of you are aware, attracted so much interest. In this case, as in most others where this splendid pigment is secreted, the pink deposit did not always appear; the urine, however, retaining its deep tint. This arises from no more urate of ammonia being, on some days, present than can remain dissolved; if an excess occurred, it would, in the act of being deposited, carry down with it a considerable portion of the colouring matter.

In the very case to which I have referred, copious deposits of the most splendid purple were present on December 15th, while on the three following days they were absent; the urine retaining, however, its crimson hue. Of this clear urine the man passed on December 16th one pint and a half,=13125 grains, of specific gravity 1·002. By the process I pointed out to you at our last meeting, you can readily calculate the amount of solids escaping in the urine, amounting to 476 grains, being 134 grains below the healthy average. On the addition of nitric, hydrochloric, or acetic acid, to this urine, a copious precipitate of deeply coloured uric acid occurred. Liquor potassæ lightened the tint of the urine without producing any visible deposit. It was not affected by heat. If you take the trouble to evaporate a specimen of urine possessing this deep-brownish-colour, and digest alcohol on the extract, you will obtain a fine purplish crimson solution exactly resembling in tint that obtained by digesting the deposit itself in the same menstruum. Some doubt has existed regarding the real nature of the pigment colouring the urine and the deposit. Dr. Prout is inclined to consider that the colouring agent is purpurate of ammonia (murexid of Liebig and Wohler). From a very careful investigation of this matter, which I made nine years ago in conjunction with Dr. Brett, I feel convinced that the view taken by Berzelius and some others, is the most correct. You will find the result of our experiments published in the Medical Gazette for 1834. I have since repeated these observations on many fine specimens of the crimson deposits, and invariably met with the same results. As, however, Dr. Prout has, in the last edition of his valuable work, maintained his former opinion, I have felt it necessary to allude more fully to this matter than I should otherwise have done.

Fourthly, Perfectly, or nearly white deposits are occasionally met with in pale specimens of urine, especially in gouty subjects. This deposit consists for the most part of urate of soda, and attention has been particularly directed to it by Dr. Prout. It is certainly of unfrequent occurrence.

Deposits of urate of ammonia frequently contain crystals of free uric acid, which become perfectly obvious by gently warming the urine to dissolve the amorphous deposit. They likewise frequently co-exist with oxalate of lime, and but very rarely with the phosphates. I have frequently met with these deposits of urate of ammonia, falling wholly or partly in a gelatinous state, so as to resemble masses of mucous: this resemblance is often remarkably striking. The application of heat, or the addition of a drop of liquor potassæ, by dissolving the deposit, at once distinguishes it from mucous.

Medical Gazette, Feb. 17, 1843, *p.* 729.

When uric acid occurs in the form of a visible deposit, it invariably presents more or less of a crystalline character. I have never met with it in the form of an amorphous powder, which its combinations with bases are so remarkably prone to assume. I am aware this is exactly the reverse of many statements which have been made on the continent; but as it agrees with the opinion of Dr. Prout, and with careful observations made by myself during the last ten years, I feel no hesitation in making this statement to you as correct. Uric acid never appears in deposit free from color; it is certainly sometimes very pale, but more generally partakes of a yellow or orange-red hue; and hence the terms of yellow or red sand, which have been applied to such sediments. On collecting such a deposit, and examining it under a moderate magnifying power, you will be struck with the remarkable beauty and regularity of its crystalline form. It is rare to find the acid in the form of mere striated scales; in the

great majority of cases it appears perfectly crystallised. You can readily discover the crystalline form of the deposit by merely placing a drop of the urine containing it, under the microscope furnished with a good half-inch object-glass. I, however, prefer allowing the urine to repose for a short time in a tall vessel, decanting the great proportion of the fluid, and then pouring about a teaspoonful of the lower turbid layers into a watch glass, gently warming it to dissolve any urate of ammonia that might be present. Remove the supernatant fluid with a pipette, and replace it with a few drops of water. By this process you will render the crystals beautifully distinct, and will be rewarded for the trouble you have taken by the extreme facility with which the crystals can be examined, when the watch-glass and its contents are submitted to the microscope. In this way you will meet with crystals of uric acid which vary a good deal in figure, according to the rapidity of their deposition, the quantity of the colouring matter of the urine they contain in combination, and probably, also, on the nature of the agent which induced their precipitation. Two of these forms can be obtained artificially, by filtering a warm solution of urate of ammonia into a dilute acid; rhomboids or square tables being precipitated according to the strength of the solutions employed. The most frequent form of crystal presented by uric acid is some modification of the rhomboid, the acute angles becoming sometimes so obtuse as to cause the crystal to resemble a square table or even a cube. You can either examine these crystals by transmitted or reflected light. I think the latter has some advantages over the former. To examine a deposit thus, place between the stage of the microscope and the watch-glass containing the crystals a piece of black velvet or cloth; by means of a condensing lens, throw a strong light on the crystals, and then bring the object-glass in proper adjustment, and the colour as well as figure of the crystals will become beautifully defined on a black ground.

The true nature of the deposits consisting of urate of ammonia is shewn in a very interesting manner under the microscope. For this purpose, place a drop of the turbid urine in a watch-glass, and warm it. The urate will dissolve, and, on cooling, will reappear in the form of an amorphous powder. Again warm it, and as soon as the urate has disappeared, add a drop of any acid, as acetic or hydrochloric. On now having recourse to the microscope, you will find that rhomboids or tables of uric acid will be deposited instead of an amorphous powder, the acid having combined with the base and set the uric acid free.

Cause of deposits of uric acid or urates.—On this highly interesting part of the important subject before us, I might enlarge much more than would be profitable to you. So many hypothetical views regarding the proximate causes of urinary deposits have been promulgated from time to time, that a volume might be filled with them. I think, however, it will save time to begin with the latest theory that has been announced—the now well-known one of Professor Liebig. This philosopher admits the existence of a vital force, a *vis vitæ* in the animal frame opposing itself to the chemical changes which all the tissues and fluids of the body would otherwise undergo. Thus, blood in the living vessel and a muscle in a living healthy being, may remain chemically unchanged for an indefinite period; but as soon as life ceases, the fluid and the solid obey the ordinary laws of dead animal matter, and rapid putrefactive decomposition is the result. This view, I need hardly tell you, has no novelty; it is the old one of the schools. From this point Liebig set out with the opinion "that the oxygen of the air is the proper external cause of the waste of matter in the animal body; it acts like a force which disturbs and tends to destroy the manifestation of the vital force at every moment."—p. 223. And as a consequence of this view, whenever a man, as in phthisis, dies with emaciation, his tissues are oxidised at the expense of the oxygen of the air, *and thus he literally rusts to death.* To prevent this occurring, either the vital force must be generated in sufficient intensity to effectually oppose this action of oxygen on living tissues, or some substance must be present which, opposing a less amount of resistance to the action of oxygen than an organised tissue, combines with it, and thus shields the latter from the influence of the former. The mucous covering the air-passages, and the bile in the intestines, are thus supposed to be the conserva-

tive agents which protect the tissues imbued with them from destruction by oxidation. A person remains in health, and of the same weight, when the vital force is capable of exactly opposing any undue oxidation of the body; while if it be incapable of effecting this, oxidation occurs. In those parts of the frame not directly exposed to the oxygen of the air, this important agent is conveyed in the red particles of arterial blood, which give up their oxygen to effect the destructive metamorphosis of parts not sufficiently protected by vital force Hence, whenever the circulation is accelerated, as in fever, a greater quantity of oxygen must circulate through the body than in health, and a more rapid destruction of tissues will result.

To explain the occurrence of uric acid, or urates in the form of sediments or concretions, Liebig supposes that, when, by the effects of wear and tear of any part of the body, as by exertion, a portion of any tissue becomes unfit for its functions, its elements, under the influence of the oxygen conveyed to it in arterial blood, become rearranged, and ultimately for certain ingredients, among which uric acid is the most important. This I have more fully explained in my first lecture. We have now to follow this uric acid a step further, and it is supposed by the author of these views that, by a continued action of the oxygen, more or less of this uric acid becomes converted into urea, a highly soluble matter, and carbonic acid; the former escaping by the kidneys, the latter by the cutaneous or pulmonary surfaces. This change is assumed to be most rapid and complete where respiration is most perfect, and consequently most oxygen taken into the system. Hence, in those animals which subsist upon azotised food, the quantity of uric acid, in relation to the urea, which ultimately appears in their urine, is in the inverse ratio of the rapidity of circulation, of the perfection of respiration, and consequently of the heat of the body. Thus the boa constrictor eats an enormous meal of animal food; but being a cold-blooded, slowly respiring animal, it takes in too little oxygen to convert the uric acid evolved by the secondary or destructive assimilation of its tissues into urea; and hence its semi-solid urine consists chiefly of bi-urate of ammonia, without a trace of urea. On the other hand, the lion and tiger, equally carnivorous as the serpent, are rapidly-respiring, warm-blooded animals; and hence, although, from their violent muscular exertions, rapid and great absorption of their tissues must necessarily occur, but a barely appreciable trace of uric acid occurs in the urine; for this acid, although abundantly generated by the metamorphosis of their tissues, is nearly entirely converted into urea on account of the free supply of oxygen by the perfect respiration of these animals. If the lion were, like man, to become omnivorous, and to partake of a mixed diet, partly animal and partly vegetable, the ingredients of the latter kind would require, for their oxidation, a considerable supply of oxygen, and thus would combine with a portion of that which, without their presence, would act on the uric acid to form urea. Thus, by shielding the acid from oxygen, less urea would appear in the urine, and an equivalent proportion of uric acid would be present. And in this manner is the presence of uric acid in human urine explained by these views. Consequently, if these be correct, it is obvious that the imperfect admission of oxygen to the tissues must be a cause of the excretion of uric acid by the kidney; and if its quantity be considerable, a sediment, gravel, and ultimately, in all probability, a calculus, must result. We should, therefore, expect that any thing which prevents the conversion of uric acid into urea would produce an excess of the former in the urine; and from this reasoning, an imperfect conversion of venous into arterial blood, or in fact, any serious interference with the perfection of the respiratory process, will become a cause of excess of uric acid in the urine. Conversely, if an excess of oxygen be admitted, then all the uric acid will be converted into urea, and the urine will resemble that of the lion or tiger, to which I have just referred. Hence the supporters of these views affirm that a deposit of uric acid or urate of ammonia is "very rare in phthisical patients," which disease is regarded by Professor Liebig as a case of excessive oxidation of the tissues of the body.

[Dr. Golding Bird does not seem at all satisfied with these hypothetical views of Liebig; and if we may judge from the results of careful observations

made by Becquerel and Andral, two most respectable authorities, we can not but agree with Dr. Bird that Liebig's views are by no means supported by, but are in direct opposition to clinical observation. On this point Dr. Bird states,]

The results of M. Becquerel's observations, which I now lay before you, are completely opposed to the hypothesis of Professor Liebig. That in cases of anæmia, the quantity of uric acid is actually diminished, is the general result, not only of M. Becquerel's experience, but is in accordance with every-day observation; while in all cases where feverish excitement exists, an excess of uric acid occurs. In the table of M. Becquerel, we find, in five cases of chlorosis, the quantity of uric acid secreted in twenty-four hours, varied from 1·8 to 6 grains, the healthy standard being 8·1 grains. Chlorosis being a disease of anæmia, and, necessarily, oxygenation going on imperfectly, there ought, on Liebig's views, to be an excess of uric acid, and deficiency of urea; yet the very reverse really occurs; for while a minimum of uric acid is eliminated from the system, the ration of urea to uric acid either equals or exceeds the healthy proportion. Again, to take an extreme case, one in which a person is suffering extreme dispnœa from pulmonary emphysema: here an imperfect arterialisation of the blood occurs, while the livid lips and cold extremities, so frequent in this state of things, all point out the imperfect admission of oxygen to the body; consequently, if Liebig's views were correct, we ought to have an abundant discharge of uric acid, and comparative diminution of urea; and yet, what is really he fact? The quantity of uric acid excreted in twenty-four hours is nearly one half of that which is evolved when healthy access of oxygen occurs, and the proportion of urea is really larger than in health. To pass to the next class of cases; those in which it is, on these new views, supposed that excessive action of oxygen occurs, so that the unhappy victim *oxidises* to death. I allude to phthisis, in which little or no uric acid should be present in the urine, as all would be converted into urea from the excessive action of the oxygen. Here, again, the results of experience are precisely the reverse of what M. Liebig states ought to occur, the quantity of uric acid being almost always greater than in health, and the comparative proportion of urea reaching a minimum; the ratio of uric acid to urea, being, in two cases of advanced phthisis, as 1 to 3, and 1 to 7·33, instead of 1 to 30·37, the healthy proportion.

Lastly, in cases where, from the presence of inflammatory action, a more complete oxygenation of matter capable of undergoing this change ought to occur, an extreme diminution of uric acid, and proportionate increase of urea, might be expected. Here, again, the very reverse is met with: a large increase of uric acid invariably takes place, and a comparative diminution, instead of an increase, of urea.

Thus, it is evident that, before Liebig's views can be admitted, the results of the observations made by Becquerel at the bedside, which I have laid before you, must be shown to be utterly worthless. There remains yet another objection, which appears to me to be a serious one, to the validity of Liebig's position regarding the effects of perfection of respiration in preventing deposits of uric acid It is true, that in serpents, whose respiration is notoriously languid, their urine is solid from abundance of uric acid: and in the higher carniverous mammalia, the reverse takes place. Yet there exists a large class of animals, in whom respiration is most perfect, whose animal heat is superior to that of man, and the pulsations of whose hearts are much quicker; circumstances which demonstrate the free admission of oxygen into their systems. In these, therefore, no uric acid ought to escape unchanged; and yet, in opposition to all this hypothetical reasoning, this acid is excreted in nearly as great an abundance as in serpents, in whom the very opposite condition of respiration and circulation obtains; I allude to *birds*, especially to the carniverous ones; the semi solid urine which escapes from the cloaca of the jack-daw, parrot, and many other birds, containing a large proportion of urate of ammonia. Nay, so large is the quantity thus , oduced by these perfectly respiring, warm-blooded animals, that many islets *off the coast of South America* are covered to some depth with impure urate of *ammonia, from the marine birds*, which are their chief inhabitants. This very

substance constitutes the *guano* or *huanu* now so largely imported into this country as a valuable manure. This fact, I think, is sufficient to show that the ready admission of oxygen, even in animals whose organs of respiration are most perfect, is not sufficient to prevent the excretion of uric acid, and that Liebig's hypothesis here meets with a most serious, and, to my mind, fatal objection.

Admitting, what I conceive scarcely can admit of a doubt, that uric acid exists in urine, in combination with ammonia, it is obvious that if any change takes place in the system which can remove the ammonia, uric acid must, of necessity, occur as a deposit. Let us, then, inquire what are the possible sources of such a precipitating agent. First, I should direct your attention to the fact, that two acids, at least, have been proved to exist in the body in a free state, the lactic and hydrochloric. Of these, whilst both are met with in the stomach, the former is excreted at the cutaneous surface. In health, these acids are necessary ingredients of the gastric juice, and in disease, they very frequently increase to an extraordinary extent. This has been placed beyond all doubt by the researches of Dr. Prout. I have also recorded cases of this kind, in which I have submitted to analysis the vomited fluid. In one case of scirrhous pilorus, in which the patient frequently vomited several pints of fluid in the course of twenty-four hours, I found in each pint a quantity of free hydrochloric acid equal to 22 grains of the acid of the Pharmacopœia, in addition to a sufficient proportion of some organic acid to neutralise nearly seven grains of pure potassa. At another time the hydrochloric acid nearly disappeared, and the quantity of organic acid existing free in the fluid was capable of saturating nearly 17 grains of pure potass.

As we are thus furnished with positive proof that a large quantity of free acid frequently is generated in the stomach, it is obvious that unless it be got rid of by the process of assimilation, or evaporated in the perspiration, it may reach the kidneys, and, by combining with the ammonia of the urate, cause the precipitation of uric acid in a free state, and thus become a primary cause of gravel. And it is a fact capable of verification in every case of irritative dyspepsia, that deposits of free uric acid are exceedingly common. Thus, then, this explanation of one source of uric acid deposits is not an unbased hypothesis, but supported by the results of experience. It may, indeed, be proved by administering to a person in health a sufficient quantity of some acid which is capable of escaping the converting power of the stomach—as sulphuric, hydrochloric, or phosphoric. In the majority of cases, this will be followed by the appearance of crystalline grains of uric acid in the urine. Hence the propriety of prohibiting the use of acids, and of those matters which may generate acids in the stomach, as preparations of sugar, in persons predisposed to these deposits. That the state of cutaneous transpiration is influenced by the condition of the stomach, was long ago proved by Seguin. This philosopher showed that, as a mean, eleven grains of matter were exhaled from the cutaneous in a minute. He also proved that exhalation becomes less abundant after partaking of food, and is sensibly lessened when digestion is imperfect. Hence, if an acid capable of acting as a precipitant of uric acid be one of the products of cutaneous exhalation, it is obvious that indigestion may be an indirect cause of uric acid deposits, by lessening the amount of matter exhaled from the skin. This is one of the modes in which a bulky meal, or exercise during digestion, enumerated by Dr. Prout among the causes of these deposits, may act.

A totally different and very ingenious explanation of the influence of suppressed perspiration in producing deposits of uric acid, has been given by the zealous and talented advocate of Liebig's views, to whom I have before referred, Dr. Jones. He has supposed that when perspiration is checked, the lactic acid usually thus evolved, is retained in the circulation, and, by the affinity of its elements for oxygen, combines with it; and thus shields the uric acid generated from the tissues from its action.

The other causes of uric acid deposits which we have to consider, are referable to whatever produces an undue formation of this acid; so that the total quantity produced is greater than natural. Dr. Prout has supposed that malassimilated azotised *ingesta, under certain circumstances*, enter the circulation,

and are eliminated by the kidneys, as urate of ammonia—an opinion certainly in accordance with daily experience. If the ill-digested meal is composed of food rich in nitrogen, as meat or fish, more uric acid, *cæteris paribus*, appears in the urine than if highly carbonised ingredients, as bread or potatoes, had been taken into the stomach. This is well shown by the fact mentioned by a late writer on this subject, that a cup of strong coffee which contains a crystallized body, caffein, rich in nitrogen, will, in many persons speedily produce a discharge of urine, turbid from the presence of urate of ammonia. I need hardly remind you that this fact is altogether opposed to the illustrious chemist to whom I have so often referred; but, nevertheless, the truth of these statements is unquestionable.

You will recollect that, from a series of very careful experiments, Seguin determined that, on an average, eleven grains of matter were exhaled from the skin in a minute. This is equal to 15840 grains, or 33 ounces, in twenty-four hours. Hence the weight of the perspired matter is little inferior to that of the urine. Anselmino afterwards made this matter the subject of examination, and found that, as a mean, it contained 88 per cent. of solids; and 100 grains of such solid extract contains 22·9 grains of saline matter. From these data a simple calculation informs us that, in every twenty-four hours, the matter exhaled from the skin will consist of

	GRAIN.
Organic matter - - - - - -	107·47
Saline matter - - - - - -	81·92
Water (and carbonic acid) - - -	15700·61
	15840·00

The nature of this organic matter is but imperfectly known: it certainly contains lactic acid, with some highly azotised matters, resembling those obtained by digesting muscular tissue in water, in addition to a body which, if not urea, appears to me closely to resemble it. Indeed, Fourcroy positively detected urea in the sweat of a horse. If, then, the action of the skin becomes checked, all or part of the 107·47 grains of organic matter must be retained, and, being highly azotised, will, in all probability, evolve from the system by the kidneys in the form of uric acid or urate of ammonia.

In this manner, in addition to the precipitation of uric acid by the effects of the acid normally evolved at the surface of the skin, a positive increased quantity of this acid may be generated, in the attempt to dislodge from the system those ingredients rich in nitrogen, which the skin is incompetent to excrete, from the influence of some cause interfering with its healthy functions. I would throw it out, as a mere suggestion for further inquiry, whether the curious fact of animals so totally opposed in the rapidity of circulation, respiration, and animal heat, as birds and serpents, evolving the same product in their urine, could meet with a possible explanation in the state of the feathered covering of the one, and the scaly covering of the other class, being such as to exclude any amount of cutaneous exhalation? *Ibid., Feb.* 24, 1843, *p.* 761.

The next ingredient of urinary sediments which we have to examine is the *Oxalate of lime.*—This is one of very great importance, as well from its frequent occurrence as from the severity of the symptoms with which it is very often accompanied. Deposits of this substance are either made up of minute greyish calculous concretions, known as *hemp-seed gravel*, or of minute, colourless, and often scarcely visible crystals.

When you meet with a case in which the oxalate is suspected, take care to have the night and morning's specimen of urine brought to you, the *urina chyli* and *urina sanguinis*; the former you will generally find the heaviest, sometimes exclusively containing the oxalate, but certainly always having it in the greatest abundance. Allow the urine to repose in a tall vessel, decant the great mass of the fluid, and pour some of the lowest, most turbid portions, into a watch-glass. Warm it over a spirit-lamp, giving the glass a rotatory motion, so as to collect the deposit in the centre of the glass Remove the fluid with a pipette, and replace it with a few drops of water; a white glittering sediment will then be readily seen with the naked eye. On placing it under the microscope, fur-

nished with a half-inch object-glass, the characteristic octohedral form of the crystals of the oxalate will become readily visible.

The appearances presented by these crystals vary somewhat with their size and with their being dry or suspended in water. When of moderate dimensions, and examined under water, they appear as perfectly regular octohedral crystals, formed by two four-sided pyramids, with a rhombic base, placed base to base. If however, they are very minute, they resemble exceedingly small cubes, of which the sqaure outline is alone visible. On the application of a higher magnifying power, however, their real octohedral shape becomes easily distinguishable. If the crystals be allowed to dry on a plate of glass before examination, they present a very curious appearance, owing to their only partially transmitting light, on account of the inclined sides of the pyramids reflecting all those rays which do not pass parallel to the axis. They then resemble quadrilateral crystals having a square figure in the centre, the latter being transparent, and the former opaque; so that they resemble two concentric cubes, the inner one being perfectly transparent, and the outer one absolutely black; the angles of the former being opposed to the sides of the latter. On the application of a deeper magnifying power, these crystals lose this very curious appearance, and present their real octohedral figure. Occasionally, although rarely, a very remarkable variety of the crystals of oxalate of lime are met with. They appear like dumb-bells, or like two kidneys, with their concavities opposed, and connected by a band. These are thickly striated with very numerous fine lines diverging from the centre like a zeolite. I suspect that these very beautiful objects are really minute calculous concretions, and not true crystals. They generally alternate or co-exist with octohedra. When they occur of some considerable length, as 1-40th of an inch, they are often locked together, requiring some firm pressure to separate them, and feel gritty to the touch.

The addition of boiling acetic acid, liquor potassa, or ammonia, does not effect these crystals of oxalate, whilst the phosphates are soluble in the former, and uric acid in the latter. The addition of a drop of hydrochloric or nitric acid readily dissolves them. If a small quantity of the deposit is collected on a slip of platinum and ignited, the carbonic oxide is evolved, and the oxalate of lime becomes converted into carbonate, which readily dissolves in acids, with evolution of bubbles of carbonic acid gas. This may be observed in infinitessimal portions of the deposit under the microscope.

Regarding the nature of the symptoms attending the developement of oxalate of lime, and their most frequent exciting cause, enough experience has now been collected to enable to us to arrive at a tolerably satisfactory conclusion The symptoms are always those of depression, with great irritability; and, although most frequently referred by the patient to the stomach, are nevertheless often of a more general character. A person, for example, will tell you, he has for weeks or months been losing flesh and health; he has become nervous and hypochondriacal to the greatest degree; he is tortured with constant feelings of impending misfortune; every thought, every action, is tinged with melancholy; his temper has become irritable and suspicious, his sexual desires and powers have failed; his appetite is capricious and uncertain. This is the picture of an extreme case; but in very many cases the patient seeks relief long before the symptoms have accumulated to this extent. Even then, however, notwithstanding the early stage of the ailment, an expression of settled melancholy often strikes you on first seeing the person. I shall not here allude further to the symptoms presented by these cases, as I have placed on record numerous instances of this form of disease in the Medical Gazette for the past year, (see Retrospect, Part 6, Art. 2), and to those papers I would refer for further information. One fact I have very generally observed, that, in the great majority of the cases I have witnessed, the disease was more or less directly traceable to some source of irritation connected with the sexual organ. Uterine disease in women; and in men repeated gonorrhea, onanism, or excessive indulgence in intercourse, certainly appear to be frequent primary links in the chain of causation of this diseases. I may remark, that the general symptoms detailed by Dr Prout as characteristic of cases in which excess of urea is excreted, closely resemble *those of the disease under consideration.*

Regarding the immediate causes, I should refer them to the same as those which would produce an excess of urea or uric acid, which I have before explained to you. The presence of the irritable condition of the nervous system, especially of the organic system, as shewn by the emaciation, &c., disposing the conversion of these more frequent ingredients of urine into an oxalic compound. And this is supported by the fact of the great frequency of minute crystals of the oxalate in the common dyspeptic deposits of urate of ammonia. The treatment I have found most successful accords with this view. The use of nitric acid in gradually increased doses, the administration of minute doses of mercury, followed by mineral nervine tonics, as the sulphate of zinc and iron, or the oxide of silver, comprises the general routine of the treatment I have adopted. The warm bath, with a carefully administered course of colchicum, especially of the acetic extract, in doses of a grain, with as much of blue pill twice a day, has often been of great service in obstinate cases.

I cannot too strongly impress upon you the importance of becoming acquainted with this very serious and frequent form of disease, as the large number of these cases in which I have been consulted since I first announced the frequent occurrence of the oxalate of lime have convinced me of its being very frequently overlooked. In the majority of these cases I have been told by the medical attendant or friends of the patient that I had to investigate an obstinate case of dyspepsia, with emaciation and hypochondriasis, in which every remedy that had been tried, although it had relieved for the time, failed to effect any permanent good.

Phosphatic Deposits.—On an average 6·5 grains of phosphoric acid leave the system in the urine in the course of 24 hours. Although the particular state of combination in which this acid exists may admit of doubt, yet it is evident that a considerable portion of it exists in the urine with lime, magnesia, and ammonia. The two latter bases very probably exist in the same combination, forming a double salt; the ammonio-phosphate of magnesia, or triple phosphate, as it is termed.

If you add a very small quantity of ammonia to a large quantity of healthy urine the mixture becomes turbid from a deposit of the triple phosphates, mixed in all probability with phosphate of lime. On placing a drop of this turbid urine under the microscope, myriads of minute prisms of the triple salt mixed with amorphous granules of the phosphates of lime, will be seen floating in the fluid. These readily disappear on the addition of a drop of almost any acid. As these earthy salts are insoluble in water, it is evident that they must be held in solution in the urine by the free acid which generally exists; this acid is either phosphoric or lactic, or both. If, from any cause, the quantity of solvent acid falls below the necessary proportion, the earthy phosphates appear in the urine, forming a deposit. Hence, when the urine is alkaline, phosphatic deposits are necessary consequences. If urine be secreted with so small a proportion of acid as barely to redden litmus paper, a deposit of triple phosphates often occurs a few hours after emission; a phenomenon depending on the influence of the mucous matter present, which, exciting catalytic action like a ferment, induces the decomposition of urea, and the formation of carbonate of ammonia, which, by neutralising the solvent acid, throws down the phosphates. The precipitation of the phosphates thus takes place analogous to that in which carbonate of lime is thrown down, the action being here limited to a neutralisation of a free acid: indeed, where phosphates of lime form the great bulk of a deposit, a certain portion of carbonate is generally present.

It is, however, by no means necessary for urine to be alkaline for a deposit of phosphates to exist; indeed, in the great majority of cases, urine which deposits the triple phosphate is acid at the time of emission, and often for long after. This may appear rather paradoxical, when we recollect the readily solubility of triple phosphate in a very weak acid; but admits of a ready explanation when the fact that a fluid may redden litmus, and still contain no uncombined acid, is borne in mind. Thus a solution of hydrochlorate of ammonia will redden litmus paper, and yet it contains no free acid; and as this salt exists in the urine, it is quite possible that it may be the cause of which its acid reaction

depends, where deposits of phosphates exist. It has been rendered very probable, by the interesting experiments of Dr. Rees, that this very salt may, in some instances, be really the solvent of the earthy phosphates, as they are, to a certain extent, soluble in solutions of sal-ammonia. These solutions possess the very remarkable property, first pointed out by the excellent chemist to whom I have just referred, of becoming opaque by ebullition, from a deposition of a portion of the earthy salt. The very same phenomenon often occurs in urine which contains an excess of phosphates. Indeed, it is not unfrequent to meet with urine which does not contain any visible deposit, and yet on the application of heat, appears to coagulate not from the presence of albumen, but from the deposition of earthy phosphates. The addition of a drop of nitric acid immediately dissolves this deposit, and distinguishes it from albumen. A different explanation of this phenomenon has been offered by Dr. Hargrave Brett, and much undoubtedly is perfectly true in many cases, although the hypothesis of Dr. Rees is applicable to the greater number. Dr. Brett's explanation is founded on the solubility of phosphates in water impregnated with carbonic acid. It has long been known that carbonic acid frequently exists in a free state in the urine, and in a large number of specimens examined by Dr. Brett and myself we succeeded in readily isolating it. These experiments were made several years ago, in consequence of having noticed some curious phenomena presented by the urine of a student of this hospital (since dead) a pupil of the late Mr. Bryant, of Kennington. This gentleman, in endeavouring to raise a heavy sack of epsom salts, strained his back, and soon after fell into a state of marasmus, with occasional hectic, which ultimately exhausted him. During the last six months of his life he passed a very large quantity of pale acid urine, which, by keeping, soon became alkaline. This urine was limpid when first passed, but became opaque as soon as it had cooled, still, however, retaining its acidity, so that the deposition of the phosphates did not necessarily depend upon the development of an alkali. On warming the fresh urine an evolution of carbonic acid gas took place, accompanied by a deposition of phosphates. When the two portions of the fresh urine were placed as soon as passed in separate bottles, one left open, and the other closely corked, the urine contained in the latter remained transparent, and that in the former became opaque.

Whenever the triple phosphate occurs in the urine as a deposit, it is always found to be composed of crystals which are generally sharply defined, and extremely regular. You must, however, bear in mind that these crystals may exist in large quantities, and yet escape detection in consequence of their extreme transparency. In cases of this kind the deposit which forms by repose, generally presents the appearance of a mere mucous cloud, and it is only distinguished from it by the addition of an acid, which immediately dissolves it. On decanting such urine and placing the lower turbid portion in a watch-glass, the crystals may be detected by moving the latter near a lighted candle, when a series of glittering points become visible from the reflection of the light from the facets of the minute prisms of the triple salt. On placing the watch-glass under a microscope the crystals may be readily recognised. The depositions of the phosphates may become accelerated by warming the urine in the manner I explained to you when speaking of the oxalate of lime. The exact resemblance presented by the deposits of phosphates to mucous clouds is so very close that the most practised eye can scarcely distinguish between them; indeed, scarcely a week passes but I find myself completely at fault on attempting to distinguish between them by bare inspection. When phosphate of lime exists mixed with the triple salt, the deposit often remains for a long time diffused through the urine, so as to resemble rope-like masses of purulent mucous. Not only do deposits of phosphates resemble mucous and pus in physical appearances, but they frequently co-exist. Indeed it is very frequent to find prisms of triple phosphate entangled in the meshes of the mucous cloud which forms by repose in all urine. When the triple phosphate co-exists with mucous or pus, the microscope will readily detect its presence. Occasionally, where a small excess of the triple phosphate is present, it is found on the surface of the urine, forming a delicate iridescent scum or pellicle, reflecting coloured bands of light.

like a thin layer of oil, or the surface of a soap-bubble. When a considerable quantity of ammonia is added to urine, a deposit occurs from setting free a triple phosphate of magnesia, which differs from that to which I have just been alluding, in containing half an equivalent more of ammonia; it is in fact a *sesqui-basic*, or, as it is commonly termed, a bi-basic triple phosphate of magnesia and ammonia. This is evidently formed by the ammonia playing a double part; it not only neutralises the solvent acid, but combines with the normal phosphate to form a basic salt. This can be readily distinguished from the neutral salt by its crystalline form, as it always presents the form of stellæ, generally six-rayed, often elegantly pinnated, in some cases presenting the appearance of foliaceous crystals resembling fern leaves; this variety, however, being almost always the result of decomposition, when the urine has been kept a long time.

This basic phosphate invariably, and I believe necessarily, exists with alkaline urine; it very rarely occurs in recent urine, and so far as I have had occasion to observe, is always a secondary product. There are no definite microscopic characters by which phosphate of lime can be recognised in deposits; it always appears as a mere amorphous cloud, made up of extremely minute particles, sometimes presenting a globular arrangement. In this form they are frequently found adhering to prisms of the triple salt, and their nature can be readily made out by the addition of a drop of very dilute hydrochloric acid, in which both phosphates readily dissolve, and by this property are at once distinguished from all organic globules, which are insoluble in that menstruum. These deposits are so readily recognisable with the assistance of the microscope, that it can scarcely be deemed necessary to have recourse to their chemical characters, which are often made out with extreme difficulty, from the small quantity of deposit we have in most cases to operate on. If any doubt should, however, remain regarding the nature of any deposit of this class, it may be sufficient to recollect that of all the deposits possessing a true crystalline form which have yet been examined, the triple phosphate is the only one which is soluble in acetic acid, and of all amorphous deposits, the phosphate of lime is the only one which does not disappear on the addition of liquor potassæ.

The urine, in cases where an excess of phosphates of either kind exists, differs in its physical character very materially. Certainly no general rule can be assigned for the colour, density, or quantity of the urine secreted in these cases, taking them in a mass; although I think there are certain facts connected with the presence of the phosphatic deposits which serve to connect the colour and quantity of the urine with the pathological conditions producing, or at least coexisting with them.

As a general rule, where copious phosphatic deposits, whether magnesian, calcareous, or both, exists for a considerable time, the urine is pale, often whey-like, and of low specific gravity. This is especially the case where organic lesion of the kidneys exists. On the other hand, when the deposits are of occasional occurrence, often disappearing and recurring in the course of a few days, the urine generally presents a deep amber colour, and is not only of high specific gravity, but often contains an excess of urea, and presents an iridescent pellicle on its surface by repose. This is especially the character of the phosphatic urine secreted under the influence of some forms of irritative dyspepsia, and where the phosphates themselves may be traced to mal-assimilation. Again, phosphatic urine may be met with varying from a pale whey-like hue to a deep brown or greenish brown, exceedingly fœtid, generally but not constantly alkaline, and loaded with dense ropy mucous, often tinged with blood, and in which large crystals of the triple phosphate and amorphous masses of phosphate of lime are entangled. This variety is almost always met with either under the irritation of a calculus, or where disease of the mucous membrane of the bladder exists.

It was long ago remarked by Berzelius, that phosphatic deposits were often present in the urine passed in one part of the day, and absent in other specimens. I carefully watched a series of cases where the triple phosphate existed in the urine, with a view to determine the accuracy of his statement, and am convinced that the following may be assumed as a safe induction from these ob-

servations. *That where the presence of deposits of phosphates is independent of the irritation of a calculus, or of organic disease, it is most abundant in the urine passed in the evening (urine of digestion), and absent, or replaced by uric acid or urates, in the morning urine (urine of the blood), the urine being always of a tolerably natural colour, never below, and often above the mean density. Where the presence of phosphatic salts depends on the irritation of a calculus, or of organic mischief in the urinary passages, the urine is pale and whey-like, of a density below the average, often considerably so, and the earthy deposit is nearly equally abundant in the night and morning urine.* *Ibid., March* 31, *p.* 11.

5.—ON THE UNRIPE FRUIT OF THE DIOSPYROS VIRGINIANA.

By JOHN P. METTAUER, M.D., Virginia.

[The unripe fruit of the *persimmon*, which is so well known for its roughness, in the temperate parts of the United States, has been seldom alluded to by writers as a therapeutic agent. Dr. Mettauer was first induced to order this medicine in a case of cholera infantum, when all other astringents had failed. He says:]

Our first trial consisted of the use of the simple infusion, formed by pouring a teacup of boiling water upon half a dozen of the half grown persimmons, slightly crushed. As soon as the infusion was cool, we directed a tea-spoonful to be given to an infant rather more than a year old, sweetened with refined sugar, every second hour, until the watery discharges from the bowels, under which it was rapidly wasting, should be arrested, or the infusion be found to disagree. This experiment was most satisfactory, and the result truly gratifying. The persimmon had only been administered twice before the bowels were restrained; and after the third dose it was suspended, until an alvine discharge could be procured by an enema. After this the remedy was only administered occasionally, as the diarrhœa threatened to recur, alternating with it, from time to time, enemata, or mild aperients. In a fortnight after this agent was first administered, the child was able to run about the house, and very soon recovered perfectly. Since the first trial with this new remedy, we have had many opportunities for using it in similar cases, and even in common diarrhœa, and the results have uniformly been decidedly favorable and salutary. After various experiments and trials with this substance, we have adopted four standard preparations for using it; that is, the tea or infusion; the syrup; the vinous and acetous tinctures. The infusion is a very active and efficient form, and will be found both agreeable and convenient for administration; it can only be employed, however, during the season which affords the fruit, and for this reason only, it is to be regarded, perhaps, as the least unexceptionable of the preparations of this article. Nevertheless, the infusion may be used with great advantage during the summer and autumnal months—which period of the year is most prolific of the forms of diarrhœa in which astringents are allowable. It may be prepared by infusing from one to two ounces of the fresh immature fruit, slightly crushed, in a common teacup of boiling water; and of the cool infusion sweetened with refined sugar, from one to three tea-spoonsful may be given to infants once an hour, or after longer intervals, until the restraining effect is produced. Occasionally the tea may be rendered aromatic by adding cassia bark, pimento, ginger, and the like; or it may be animated with French brandy, gin, or wine, to make it more palatable. When to be used with adults, the doses must be augmented to from one to three table-spoonsful; and given after the intervals already stated.

The syrup may be prepared by converting the infusion already described into a syrup, by adding to it refined sugar, and gently boiling them down to a proper consistency for keeping. This is decidedly the most convenient and useful form of using the persimmon; it is also the most agreeable, as the sugar greatly modifies the rough taste. This syrup may be variously combined for administration, and is ready and at home at all seasons of the year. It also possesses the astringency of the persimmon in great purity, and will retain it for an indefinite period of time with the least deterioration.

In preparing the syrup, care should be taken not to urge the process of con-

verting the infusion into a syrup too rapidly; gentle and gradual boiling answers best. Indeed, the fluid should just be kept to the boiling point; and the process must be conducted over a sand bath, or a salt-water bath; and glass vessels should invariably be used for the purpose. For infants, the doses of the syrup may be very nearly as we have advised for the infusion—perhaps they should be somewhat smaller. With adults we have invariably used from two to four tea spoonfuls as the dose.

The vinous tincture may be prepared by digesting one pound of the green persimmon, recently procured and a little crushed, in one pint and a half of port, or any other wine, exposed daily to the solar heat for fourteen days. After this the tincture may be filtered for use. This is an elegant preparation, and possesses the astringent powers of the persimmon in great purity, and in a most convenient form for administration. It is not, however, applicable to every variety of diarrhœa, by reason of the stimulating menstruum used in its preparation. This preparation is more especially applicable to the treatment of adult cases of diarrhœa, though we have occasionally employed it with infants likewise. The dose for adults is very nearly the same as advised of the syrup. With infants the dose should rarely exceed a tea-spoonful, and must invariably be small to commence with, say not more than one third of a tea-spoonful; and the medicine should always be sweetened with refined sugar.

The acetous tincture is prepared by digesting two pounds of the recent fruit, a little crushed, in two pints of strong pure apple-vinegar, fourteen days exposed to the solar heat; the tincture may then be filtered for use. This preparation is chiefly designed for external use, especially for gargles and cataplasms. It is most valuable in tonsillary affections, especially when they follow scarlatina, or chronic catarrh, used as a gargle. It is also exceedingly useful as a cataplasm in whitlow, or inflammation of the mammæ, threatening milk abscess. To form it into a cataplasm, it will only be necessary to convert any quantity of the tincture into a poultice, by uniting with it, when hot, the requisite proportions of any kind of farinaceous material; even the fruit may be used. We have also employed it in the early stages of dysentery, after a brisk cathartic, and with decidedly beneficial effects. In this disease it promises to be eminently useful. It is a more efficient remedy in this disease than the solution of common salt in vinegar, to which, however, it assimilates itself very much in its remedial action.

The astringency of the persimmon is peculiarly adapted to the treatment of every form of diarrhœa. In the diarrhœa of infancy, we have often used the infusion and syrup with distinguished benefit. The tinctures we have also occasionally employed, but not with very decided benefit with these tender subjects, chiefly, we think, because we were unwilling to hazard their use with them in commanding doses. We have frequently united the infusion and syrup, with the syrup of rhubarb and senna, or the infusion of senna; and occasionally with calomel, with benefit. With stimulants and tonics these preparations may also often be associated with advantage. In some exceeding bad cases of protracted Mississippi diarrhœa, we have used the persimmon with the most triumphant and salutary effects. In these cases we generally premise one or two doses of blue mercurial powder, about twelve grains, before commencing with the persimmon; and the infusion, syrup, or vinous tincture given in port wine, one of the forms of using it generally adopted by us. Should the remedy restrain the bowels very suddenly, aperients must be interposed; and for this purpose, nothing answers so well as the syrup of rhubarb, or the compound syrup of senna.

Occasionally, we have found it useful to combine grain portions of ipecacuanha with the persimmon, with a view to its diaphoretic effects; with adults especially, it will be found exceedingly beneficial to use such a combination. In the chronic stage of dysentery, we have employed these forms of the persimmon very beneficially. When used in this disease, they must be united with the syrup of rhubarb, or senna; or, combined with the oleaginous emulsion and generally, paregoric in sufficient doses to impress the system decidedly should be given with them at night. In uterine hemorrhage, and especially

menorrhagia, we have employed the infusion, both as an internal remedy, and by way of injection, per vaginam, with great benefit. In these fluxes it is destined to be eminently useful from the promptness and great potency of its action as an astringent; much, however, remains to be known of the remedial operation and applicability of the persimmon as a therapeutic agent.

American Journal of the Medical Sciences, Oct. 1842, *p.* 297.

6.—REMARKABLE CASE OF RECOVERY OF SUSPENDED ANIMATION.

By H. G. Douglas, M.D., Physician to the Stranger's Hospital, Havre.

(*Being an Extract from a Letter to Dr. Todd.*)

It is popularly believed, that after two or three minutes' submersion in the water life is extinct; and under this impression, means for resuscitation, if at all employed, are for a very limited time persisted in. Now, as to the measurement of time in such cases, it has always appeared to me very fallacious. No one ever takes out his watch to observe the moment when the person sinks in the water, although some one may look at it when he is taken out of it, but generally, the consternation and anxiety is so great that the duration of the submersion is a matter of guess or supposition with every bystander. In the case I am about to relate, I have taken the time from the average number of minutes it required, on repeated trials by different persons, after the accident, to run from the spot where it occurred to the different places the messengers ran to in search of grappling irons to pull him up by before they were procured. This time varied from twelve to fourteen minutes; and I should think the latter might fairly be allowed as comprising the whole time between the immersion and his being dragged up by the grappling iron which caught him by the waistband of his trousers.

The subject of this case, John Wilson, a seaman belonging to the Duchess of Orleans packet-ship, from New York to Havre, returning on board his vessel, which occupied a stage berth (that is, an inclined plane of perhaps 25 degrees, formed of planks, supported by cross spars, stretching from the quay to the ship, for the purpose of landing cargo by), in a state of intoxication fell over the side into the dock, where the water was from twelve to sixteen feet deep. It being Sunday, there were few sailors about the place. Some stragglers saw the accident, and gave the alarm. Two sailors, who had *not* perceived it, jumped in at hazard, but were unsuccessful in finding him, owing, as it appeared afterwards, to his having sunk into the mud. A man was then sent to seek at one of the guard-houses for a grappling iron; he was unsuccessful at the two first places, but succeeded at another, and Wilson was hauled up in the manner I have described. It was evident, from the appearance of the head and the superior extremities, that he had sunk into the mud. He was carried to the guard-house nearly opposite the vessel, and from thence he was conveyed, on a stretcher, to the Stranger's Hospital, a distance of half a mile at least from the dock. On his being brought in, at 10 minutes past 3 P.M., I directed him to be stripped and laid on a bed. *There was not the slightest appearance of animation.* While water was being made hot, and bags of hot salt got ready, I desired four of the men to commence rubbing the body with dry flannel cloths. The hospital having been then very recently established, and at such a distance from the Docks, we were unprovided with any apparatus for the recovery of suspended animation. These four men were relieved every half hour by four of their shipmates, and constant friction was thus kept up. Bags of hot sand placed round the body, and lavements of hot water, to which was subsequently added, Spt. Terebinth. and Tinct. of Assafœtida, formed the whole treatment. Inflation of the lungs was tried, but not persisted in, it not appearing to be attended with effect, and interfering with the rubbing, on which I placed great dependence. I was frequently on the point of abandoning all hope, but I saw, or thought I saw, slight convulsive twitchings in the right inferior eyelid and around the mouth, similar to those caused by weak galvanic shocks on muscular fibre. This idea, perhaps, animated me. The relays worked on well, and at a quarter past 11 at night, we were amply repaid in seeing respiration, eight hours and a half from the time of immersion, though extremely feeble, established; before

12 o'clock he swallowed a tea-spoonful of warm brandy and water. It required, for some time, great care to keep up the feeble spark that animated the frame, but it was two days before intelligence was restored; within twenty-four hours reaction set in so violently, that I was obliged to order four leeches to each temple, and to take six ounces of blood from the arm. It was well that blood was abstracted so cautiously, for the pulse suddenly fell, and became almost imperceptible, the respiration becoming greatly hurried; stimulants were immediately had recourse to, with effect. Typhoid symptoms supervened, which we had to combat for six weeks. It unfortunately happened, that one of his shipmates placed a hot sand bag in contact with his right side, and caused a severe eschar, extending from the axilla nearly to the spinous process of the ilium: this was a source of severe suffering to the poor fellow, and considerably retarded his cure: the intercostals on that side acted imperfectly, and caused great pain, and he had in addition to all to contend against pulmonary congestion: however, at the expiration of four months, he was discharged cured, from the hospital; and a short time ago came to see me on his return from New-York.

He stated, while in the hospital, that the first sensation he could refer to was the sense of heat in the intestines; I suppose from the lavement containing the turpentine and assafœtida. I am aware that this is not a solitary although it be a rare case; and that examples are given by Desgranges and Foderi of recovery after fifteen minutes' immersion. Still, I have no doubt my narrative will be received with interest, as an additional instance of what may be done by the persevering use of those means which science suggests in such cases.

Note by Dr. Todd.—Electricity should always be employed in cases of suspended animation. If brought to bear upon the medulla oblongata, it will frequently succeed in exciting the respiratory acts, when other means have failed. Perhaps the most convenient method of using it is by means of the electro-dynamic machine, by placing one wire at the back of the neck high up, and the other at the diaphragm. It was employed with marked advantage in a case which occurred lately at the King's College Hospital. An infant, a few months old, got some tincture of opium by mistake; she was brought into the hospital almost lifeless; the respiration even failed to such a degree, that for two minutes she did not breathe once. Mr. Russell, and Mr. Johnson, the resident medical officers, applied electricity in the manner above described. The first and immediate effect was to excite the respiration, and soon afterwards the whole spinal cord became affected, so that at each passage of the electric current the limbs were raised convulsively. Respiration was completely re-established by these means, but the child died several hours afterwards with congested lungs.

Medical Gazette, Dec. 23,1842, *p.* 448.

[Leroy d'Etioles suggests that by means of galvano-puncture we might stimulate the diaphragm to act still more energetically. He introduced a fine needle on each side between the eighth and ninth ribs until it reached the fibres of the diaphragm. He then established a galvanic current between the needles by means of a pile of 25 to 30 pairs of plates, an inch in diameter. The diaphragm immediately contracted, and an inspiration was accomplished. He then interrupted the circle, when the diaphragm, urged by the weight of the abdominal viscera and aided by gentle pressure made on the abdomen by the hand, returned to its former position, and an expiration was effected. In this way the two respiratory acts were made to succeed each other, and regular respiration was re-induced. The experiment, however, failed; but it shews the power of electricity in exciting the respiratory process, and the acupuncture needle might probably be in some cases an improvement when carefully employed in the method recommended above by Dr. Todd.]

7.—ELECTRO-MAGNETISM IN A CASE OF POISONING, with suggestions for its use in Asphyxia.....By THOMAS S. PAGE, M.D., Valparaiso.

[The following observations will shew the wonderful efficacy of this agent in some cases of poisoning, and will confirm the remarks made in a former number of this Retrospect and in the following article, on the efficacy of

electricity in rousing the patient from his stupor when under the influence of opium. An electro-magnetic apparatus ought now to be in the possession of every surgeon: that made by Messrs. Kemp & Co., South Bridge, Edinburgh, is a very neat and portable machine, by which we can apply electricity to any part of the body, or carry a current through any extent.]

A. T., an Englishman, the subject of this communication, aged 22 years, and of robust frame, is a clerk in one of the most respectable commercial houses in Valparaiso. He had a slight gleet, for which he prescribed for himself pulverised cubebs, in doses of half an ounce, night and morning, and experienced from them neither good nor bad effects. On the night of the 16th of March, 1842, he went to an apothecary's shop and asked for cubebs. Not having confidence in the lad in attendence, he requested permission to examine the label on the bottle, and read thereon "Pulv. Cubeb." He then ordered an ounce, divided into two parts, and with these returned home at midnight. He immediately took one of the powders, placed himself in bed, and, as was his custom, took up a book to read, but, as he expresses it, had not read two lines before he felt a dizziness and inclination to sleep. I accidently discovered him the following morning about twelve o'clock with these symptoms: face red and swollen; lips dark-purple; mouth containing a viscid frothy saliva; tongue has a dry and chapped appearance in the centre, and the teeth are slightly coated with a brown sordes; veins of the forehead and temples turgid; eyes rolled upwards, injected, and their pupils contracted to a point; skin moderately warm and moist, with clammy perspiration; feet cold; pulse very slow, moderately full, and dispersed by the least pressure; respiration very slow, short, and gasping. By agitating him violently he was aroused for a moment, uttered some incoherent expressions, and sank back into comatose sleep.

These were the symptoms when I first saw him. Dr. Houstoun, of the Royal Navy, now practising in this place, and Dr. Barrabino, of the U. S. Navy, then attached to the U. S. schooner *Shark*, came to my assistance. We administered the sulphate of zinc as an emetic, and hot mustard and water to arouse the sensibilities of the stomach to its impression. Large draughts of this, and titillation of the fauces, produced vomiting, and a small quantity of the powder apparently was brought up. The stomach-pump was at hand, but as vomiting was readily provoked it was not used. The patient was made to sit on the edge of the bed, with his feet hanging in a tub of almost boiling water, strongly charged with mustard. One cup was applied to each temple, and about two ounces of blood abstracted. Large sinapisms were spread over the chest and stomach, and inner parts of the thighs. A very strong liniment of ammonia, cantharides, and turpentine, was applied to the whole length of the spinal column, until the skin became very red and inflamed. When the stomach seemed to be cleared of all traces of the poison, the mustard draughts were suspended, and a large quantity of olive, with castor oil, administered, but only a part remained. The patient now appeared to be sinking. The surface was cold, and covered with a damp sweat; the face was pallid, with a purplish tinge; the jaw and eye-lids were fallen, which the patient, by powerful sternutatories and severe blows on the face and shoulders with the open hand, was with difficulty made to raise. Ammonia and brandy and water were now given, with light broths, and an injection composed of turpentine and ammonia. This produced a slight discharge from the bowels. The stimulating liniment already mentioned, was repeated to the spine and over the surface of the body. The pulse was hardly perceptible at the wrists, if, at times, it was at all to be felt. The stimulants were continued.

It was now 3 P. M. There were no signs of reaction, and the features wore the aspect of death. Under these discouraging circumstances, and when every effort seemed vainly expended, we now determined to dress the patient, and, supported by two strong assistants, to take him from his room, continue the stimulants and light broths, and endeavor to walk him in the cool air. At first he made feeble but unsuccessful efforts to direct the movements of his legs, but at length could not be aroused, made no effort to stand, and sank almost lifeless into the arms of his assistants. *He was carried to* his room and placed in a

slightly reclining posture on his bed. His breathing was now short and hurried; his mouth wide extended and jaw fallen; nothing seemed capable of arousing him; the exhaustion was extreme; the pulse could be felt feebly at the wrist, maintained there probably by the agitation which he had just undergone. Dr. Houston had left a short time previous. Dr. Barrabino remained with me.

It was now 4 P. M., and, worn out with fruitless efforts, we desisted entirely from further exertion. At this conjuncture I thought of my electro-magnetic battery, and proposed its application to bring about reaction, for I felt we were justified in such desponding circumstances to make it a matter of experiment. Cerebral congestion was urged as an objection, but admitted not to be sufficient, in such a desperate case, to set aside the experiment. It was immediately tried, and with the happiest results. With an assistant rapidly rotating the wheel, I applied the balls at first to each side of the neck, and ran them down behind the clavicles. The arms and body now moved convulsively, but the patient lay as unconscious as before. I now passed one ball over the region of the heart, and the other to a corresponding point on the right side. In an instant his eyes opened widely, and with a ghastly expression of countenance; his head and body were thrown convulsively toward me, and he groaned. He now sank back into his reclining posture, and he was again asleep. The balls were re-applied in the same situation with similar results—a third and fourth time, and he cried "No more." Reaction was now positively established; the heart had received a strong impulse; the pulse was becoming rapidly developed, and the whole surface warm. We now determined to desist, and watching him attentively, allow him to remain quiet for an hour. Reaction continued satisfactorily, and when the hour had expired he could be awakened by shaking his body, and calling loudly his name. There was no further occasion for the battery. He was aroused at intervals; and at eleven o'clock in the evening was sufficiently awake to relate where he had got the medicine the preceding night, but was still drowsy, and when not disturbed inclined to sleep. Thus he passed the night, and on the following morning was pretty well. He then told me that he heard many things the preceding day that were said by persons about him, but he neither felt the power to open his eyes nor move his tongue to speak, although up to 3 P. M., when powerfully agitated and spoken to, he would reply in short and sometimes broken sentences, and occasionally correctly. He further says that the last thing he has any recollection of was my remark, while they were attempting to walk him in the corridor, that nothing more could be done but to make the experiment From that time all was blank to him, until, as he expressed it, "he felt as if gun had been fired off within him, which thrilled through and shook him to the very extremities." This was the application and effect of the electro-magnetic battery.

Before closing this subject, I would beg leave to add my impression that electro-magnetism will not only be found a most useful agent in cases like the above, but in some forms of disease, particularly those of a highly congestive character, where oppression of the organs and the nervous system prevent reaction and speedily destroy life. I need not occupy space in adducing cases illustrative of my meaning. In practice I think we frequently see cases where death seems to be caused by an *obstruction* of the functions, or organic movements, which support life, more than by an *exhaustion* of the organic functions, or of life itself. And in such cases electro-magnetism might communicate an impulse which would renew those sympathetic actions between the organs (if no positive lesion exist in any of them) upon which the continuance of life depends. In all cases of asphyxia, electro-magnetism must be useful; and I am strongly impressed with the belief that it might be applied in very many instances to still-born children with the happiest effects; for this purpose an instrument might be used of a very portable form. That used by me in the case related, consists of a large *horse-shoe magnet*, mounted upon a stand, in a vertical position with an *armature*, fixed upon an axis between the poles, so as to revolve in front by means of a wheel. The *armature* consists of two cylindrical bars of soft iron, connected by a cross-bar, and in the *centre* of the bar is an insulated ferule; as near the *end of the* bar as possible is fastened the "*breakpiece*." Around each of the

cylindrical bars is wound *two thousand two hundred and fifty feet of wire*, covered with cotton thread, to prevent the current of electricity from passing from one wire to the other; the end of *one* of the coils is connected with the "*breakpiece*," and the other with the *ferule*. From one of the pillars, which are in *front* of the armature, the *springs* are made to act on the ferule and breakpiece. From the other pillar the spring connects with the *centre*; the *handles* are fastened by the *set screws* in the base of the pillars. There are four set screws in the back of the upright block of wood to set out the magnet, so as to make the armature revolve as close as possible to the magnet. The shock is communicated on ordinary occasions by grasping large brass handles which connect with the instrument by short coils of wire, which are painted red. To apply it to different parts of the body, long wires, covered with cotton thread, and terminating in brass balls, are used. Two glass cylinders enclose the wire near the balls, for the operator to hold by while administering the shock. *Lancet, Feb.* 4, 1843, *p.* 672.

8.—EFFICACY OF ELECTRICITY IN POISONING BY LAUDANUM.

By James Russell, M.D., House-Physician to King's College Hospital.

[The following case is interesting in showing the value of electricity as an excitor of the nervous centres.]

Mary Ann Hugdon, aged two months, admitted at eleven, P. M. A dose of laudanum, amounting to twelve drops, had been administered by mistake four hours and a half previously. The medicine produced deep sleep, and in th space of two hours, convulsive movements of the extremities. When admitted, the infant was quite insensible and motionless. The surface was cold and exsanguine; the impulse of the heart could not be felt; breathing was very difficult, and was performed with intervals of half a minute, at least, between each respiration; the pupils were very small, and she had lost the power of deglutition. The usual remedies were employed without success, and in a quarter of an hour the child appeared to be quite dead; but while she was being removed she was heard to rattle in her throat, and immediately afterwards breathed deeply. This encouraged us to renew our attempts to restore animation. Our measures were, however, attended with very partial success. Respiration at first improved, but soon became again very difficult and irregular, and in an hour's time the condition of the patient was very little better than it was when we first saw her. My colleague now proposed to try the effect of galvanic shocks passed through the body. An electro-dynamic apparatus was employed; one pole being placed over the upper part of the cervical region of the spinal column, and the other over the cutiform cartilage of the sternum. The greatest benefit resulted almost immediately. Rapid action of the diaphragm followed each application of the poles of the battery: a few short inspirations being drawn, followed by a deep breath. At this time, five hours and a half had elapsed since the administration of the laudanum. The remedy was employed during an hour and a half, shocks being passed through the chest, and along the course of the spinal column, whenever the breathing flagged. At first the stimulus appeared to influence the diaphragm alone but in a short time the arms were extended, and soon afterwards the legs also, whenever the poles were applied to the surface of the body. The child opened her eyes, and seemed to notice surrounding objects: she uttered some cries, and the surface became warm. The head no longer sank on the shoulders, but was supported by the efforts of the patient, and with her lips she clasped the fingers placed in her mouth. About 3 P. M., eight hours and a half after the laudanum had been taken, respiration became established, though not with regularity, and the further use of electricity was not required. But in half an hour a new train of symptoms set in; the pupils dilated widely, and the child fell into a state of exhaustion, without any of the symptoms of coma: the breathing was performed by sighs; the surface was again cold, and she became quite insensible. From this state it was found impossible to rouse her. However, she lingered till 4 P. M., when she died, quite worn out with her sufferings, twenty-one hours after the administration of the laudanum." *Medical Gazette, March* 24, 1843, *p.* 925.

9.—TREATMENT OF PHOSPHATIC DEPOSITION IN THE SYSTEM.

By Alexander Ure, Esq.

Every medical man familiar with the treatment of urinary disorders must confess, that among the most puzzling cases he encounters are those characterised by a deposition of the earthy phosphates; and that while it is an easy matter to render acid urine *alkaline*, it is by no means so easy to render alkaline urine *acid*. M. Rayer, in his recent elaborate work on Diseases of the Kidney, has given, under he head of Nephrite Simple Chronique" (tom. I., p. 372), the reports of eight cases of individuals, in whom the urine was alkaline and depositing phosphates. Out of these eight we find no less than five in which the remedial means resorted to effected no change in the qualities of the urine; in one, great improvement ensued; two only were cured, each of whom was under thirty years of age.

In a paper of mine, published in vol. 24 of the Medico-Chirurgical Transactions (see Retrospect, Part 4, Art. 12), it was stated that when benzoic acid or a benzoic salt is administered internally, hippuric acid is formed, and may be discovered in the urine. It was, moreover, suggested that the therapeutic application of the above fact might prove beneficial in the treatment of certain forms of gravel and in disordered conditions of the renal secretion connected with a gouty habit. Some interesting particulars, in corroboration of these views, have been since recorded by Dr. Walker, of Huddersfield, and by Mr. Soden, of Bath (see Retrospect, Part 6, Art. 57). These gentlemen, however, exhibited the benzoic acid in union with balsam of copaiba. The following case, which has been attentively watched along with me by my intelligent friend, Mr. Farquhar, of Albemarle-street, will, it is hoped, serve to illustrate the pure *dynamic* effects of the remedy in a clear manner:—H. H., aged thirty-seven, of spare make and sedentary habits, consulted me on the 9th of May, 1842, relative to a disorder of the urinary secretion. He said that about ten months previously he noticed, for the first time, a whitish deposit in his water, which, ere long, concreted on the chamber-pot, forming a hard grey crust, most difficult to remove; the urine had a very offensive odour, and varied occasionally in appearance, presenting sometimes a greenish, at other times a brownish colour; at the above date it was slightly opaque and of a pale yellow hue, emitting a pungent ammoniacal smell, alkaline to litmus, and effervescing briskly upon the addition of a few drops of hydrochloric acid; almost as soon as discharged it threw down a white flocculent sediment, consisting of phosphate and carbonate of lime; it did not afford any uric acid; its specific gravity was 1·023; it was voided without pain or difficulty, and in a full stream; there was little or no increase of the mucous secretion, and no albumen. The patient's appetite was good, his tongue clean, and he slept well; but he was pale, complaining of general lassitude and languor, and of a sense of weakness across the loins; his bowels were generally confined. 1000 grain measures of the above urine, evaporated to dryness by a water bath at a temperature not exceeding 160° Fah., left only thirty-six grains of dry extract, and exhaled, during the process, a great quantity of ammonia, as proved by a slip of moist litmus paper held over the dish becoming instantaneously blue. He was directed to take an aperient dose of rhubarb and ten grains of benzoic acid, twice in the day, and to live well, but plainly.

May 12. Has taken the medicine without suffering the slightest inconvenience. He says that the urine, within a few hours after the first dose, became clear, and ceased to deposit any chalky sediment. It is now natural in all respects; acid to litmus; specific gravity 1·022. After six days longer he discontinued the use of the benzoic acid. Towards the end of the month the urine became again alkaline, and I was induced to try him with the usual routine of medicines recommended in cases of this description, in order to see whether the urine could be brought to a permanently normal state. He was accordingly directed to take nitric acid in full doses thrice a-day, and an opiate at night. These, after a sufficient trial, produced no change. Hydrochloric acid, sulphuric acid combined with sulphate of iron, bark, tartaric acid in conjunction with sal-ammoniac, were each in turn freely administered, but to no purpose, for the urine continued alkaline and loaded with white sabulous matter. He eventually resumed taking the benzoic acid, and with immediate good effect. Professor

Mitscherlich, of Berlin, visited London in October last, when I had the advantage of this distinguished chemist's inspecting the above patient's urine along with me, and verifying the remarkable change produced.

Dec. 1. The patient again applied to me on account of a return of the turbid alkaline urine. I found its specific gravity 1·024. Two ounces evaporated *in vacuo*, left twenty-eight grains of extract, consisting of animal matter, salts, with but little urea. Ordered to recommence the benzoic acid. 4th. Urine is now natural; remaining limpid and acidulous after standing for twenty-four hours. The acid stain is permanent on litmus paper. Its specific gravity is 1·020. Two ounces yielded by evaporation forty-nine grains of extract. Thus, after the administration of the benzoic acid, the urine, although of an inferior density, afforded nearly double the amount of solid residuum that it did previously. 11th. A slight sediment has made its appearance in the urine, which proves upon microscopic examination to be crystals of ammoniaco-magnesian phosphate, unaccompanied by the amorphous phosphate or carbonate of lime. To suspend the use of the benzoic acid, and to take twenty minims of hydrochloric acid diluted with water thrice a-day. 25th. Urine turbid, alkaline, effervescing briskly with nitric acid, notwithstanding he has been taking hydrochloric acid regularly during the last fortnight. The sediment consists chiefly of phosphate and carbonate of lime, and is deposited only from the urine secreted during the course of the night. To take 8 grains of benzoic acid at bed-time and to discontinue the hydrochloric acid. 30th. Urine transparent and acid, remaining so after the lapse of many hours. Specific gravity 1.018. It contains the natural proportion of phosphate and uric acid. On account of some uneasiness in the loins he was ordered to rub in the tartar emetic ointment.

January 12, 1843. The uneasiness formerly complained of is removed. He has ceased to take any benzoic acid for five days past. The urine is somewhat cloudy. At the suggestion of Dr. Prout I was led to prescribe for him the solution of acetate of ammonia in half ounce doses. 20. Urine still cloudy, not withstanding the use of the spirit of Mindererus. In consequence of his suffering from some irritation within the chest, he was desired to employ the same counter-irritant salve, to take small doses of tartar emetic in solution thrice daily, and a dose of benzoic acid every night. 22. Feels much better in all respects; the pulmonary oppression is gone; urine is natural, and continues limpid and acid after several days repose. It may be observed, in conclusion, that his general health and appearance are materially improved, and he is now enabled to check all tendency to calcareous urinary sediment by simply swallowing a few grains of benzoic acid at bed-time.

Remarks.—It has appeared to me expedient to give the above case at some length, as it offers several highly instructive points for consideration. The subject is a man in the prime of life, stricken with slow consuming disease; complaining of languor, lassitude, and progressively losing flesh and strength. His urine (and the urine generally) furnishes a good criterion of unhealthy action in the system; is alkaline, throwing down a white starch-like sediment. It is deficient in uric acid, while the greater portion of the urea is resolved into carbonate of ammonia. No other substance except the benzoic acid seemed capable of controlling the septic influence which led to these changes. Other vegetable acids were not tried, as they uniformly disorder the stomach, and mineral acids failed. The latter, indeed, according to Sir B. Brodie's experience, are much less influential in cases like the present, where the phosphate is deposited by the urine in the form of an impalpable powder, with little or no increase of the mucous secretion than in those in which the urine contains the triple phosphate.

Benzoic acid, therefore, enables us to solve the hitherto embarrassing problem of rendering an alkaline urine acid at pleasure, and consequently of obviating the irritation which such urine occasions in the membranous surface with which it comes in contact; a species of irritation which opium is not unfrequently employed to allay.

The transition to the ammoniaco-magnesian phosphate is noted upon the 11th of December, 1842. This may be ascribed to some faulty assimilation in the first passages, as it yielded readily to the exhibition of another acid—namely, the

hydrochloric, which did not affect the former deposit. Thus a reflex light, as to speak, is often thrown upon the phenomena of disease, from carefully studying the action of remedies. I may here point attention to the fact, that I have observed a copious formation of crystals of the above triple phosphate in urine after a repast of *sourkrout*; a circumstance, by the way, which may perhaps account for the great immunity of the Germans, who partake freely of that food, from uric acid calculus. Not only benzoic, but likewise cinnamic acid, is transformed by passing through the system into hippuric acid, as was established by me last spring. To detect the free hippuric acid after the administration of one or other of these acids, it is merely requisite to inspissate a portion of urine by means of a steam-bath, to boil the resulting extract with alcohol *in vacuo*, and allow a little of the clear supernatant liquid to evaporate spontaneously upon a slip of glass. In the course of some hours, characteristic crystals of hippuric acid—namely, quadrangular prisms with dihedral summits may be distinguished with the microscope. This agrees with the recent researches of Pelouze, who has shown that urea may be present along with lactic or hippuric acid, without entering into chemical combination with either of them; thus demonstrating the fallacy of all the theories based upon the supposition of the existence of lactate or hippurate of urea.

In order to ascertain the solvent power of urine containing hippuric acid upon phosphate of lime, the following experiments were instituted:—A quantity of subphosphate of lime was separated from fresh filtered urine by means of pure caustic ammonia in a glass vessel excluded from access of air. The precipitate was well washed with distilled water and dried. A subphosphate was in this way procured, identical with that which forms the various deposits and concretions in the human body. A certain measure of the said urine, having a specific gravity of 1·025, was allowed to digest at a blood-heat along with a given weight of the above subphosphate. After three quarters of an hour had elapsed it was saturated with caustic ammonia, and thereby yielded more than double the amount of subphosphate of lime, which natural urine of the same specific gravity contains, according to the observations of Cruickshank. Both the prepared subphosphate and the carbonate of lime are promptly taken up by a warm aqueous solution of hippuric acid; which may thus, independently of its antiseptic agency, serve to hold dissolved any excess of these inorganic matters. Human urinary calculi occasionally consists of one or both of them. Frommherz (Jahrb. der Chemie u. Phys. XVI., 329) has given the details of the analysis of a stone from the human bladder, conposed of 90·673 per cent, of carbonate of lime, 2·966 of phosphate of lime, 4·015 of albumen and colouring matter; the nucleus being a particle of quartz. Bergemann (Poggend. Annalen XIX., 558) examined a human urinary calculus, of which the main constituent was carbonate of lime. Winkler (Geiger's Mag. XXI., 253), on the other hand, met with a calculus containing no less than 87·627 of phosphate of lime. A prostatic concretion examined by M. Barruel (Journ. de Chimie Med. VI., 12), was composed of 80 per cent. of phosphate and carbonate of lime, and 20 per cent. of a substance perfectly resembling coagulated albumen. Indeed I am disposed to believe with Dr. Yelloly, that phosphate of lime is seldom found in animal concretions uncombined with carbonate of lime (Phil. Trans., 1829, p. 79).

Phosphatic depositions are frequently observed in conjunction with gouty affections. "I know a gouty subject," says Naumann (Handbuck der Med. Klin. tom. VI., 398), "who suffers from chronic catarrh of the bladder. From time to time the urine becomes milky, and throws down a quantity of mucoalbuminous matter mixed with phosphate of lime." M. Civiale, a deservedly high authority in questions of this kind, remarks (Du Traitement Medical et Preservatif de la Pierre, p. 65). "chez les personnes atteintes depuis longtemps de la goutte et deja epuisees par les souffrances, la gravelle qui survient ou qui continue est plus specialement phosphatique." "I know one person (Otto by South, p. 103) in whom, during an atonic attack of gout, the whole mouth, throat, and gullet were largely covered with a whitish mucus, which, when dried *on blotting paper*, left behind a large quantity of phosphate of lime." Tiedemann *found white, stone-like*, roundish concretions, principally consisting of

phosphate of lime, in most of the muscles, especially in those of the extremities of a gouty subject (Op. cit. p. 252). It is, moreover, well ascertained that the calcareous incrustations which are met with between the serous and fibrous coats of arteries are frequent in the gouty, and in many instances tophaceous concretions contain no urate of soda but phosphate of lime (John, in Meckel's Archiv. fur die Physiologie, vol. I., part 4, p. 513).

Hence it appears probable, that in many such cases the calcareous deposition is to be referred to a debilitating and septic influence acting upon the system at large. To counteract which it behoves the medical practitioner to advise such hygientic and therapeutic means as will maintain that equilibrium of function which constitutes health. A strong argument in favour of the antisepic power of benzoic acid, or rather of hippuric acid, is deduced from the fact that the urinary secretion, a secretion above all others prone to rapid spontaneous putrefaction, remains untainted for days, and sometimes even weeks, when this acid is one of its component parts.

Provincial Med. and Surg. Journal, Feb. 11, 1843. *p.* 690.

10.—REMARKS ON SOME FORMS OF ABDOMINAL NEURALGIA DEPENDING ON UTERINE IRRITATION.....By Golding Bird, A.M., M.D., F.L.S., &c.

[It seems to be more and more the opinion of the profession that we are only half acquainted with those "protean host of maladies or rather symptoms simulating every form of inflammatory affection occurring in women, from the period of the first developement of the uterine functions to the time of their cessation." How many women have been bled and blistered for pleurisis and other supposed inflammatory affections, or confined for months on couches, and gone through the ordeal of blisters, leeches, and moxa, when the uterus was the real organ affected, and clearly produced those distant neuralgic symptoms. When we know how the unimpregnated womb, when in a state of irritation, exercises its influence on distant organs, we need not be surprised that this is much more the case when that organ has been lately undergoing immense changes from impregnation; and also when delivery has been accomplished, and it is gradually re-assuming its former size and functions. "Accordingly, at a time varying from a few hours to a few weeks after parturition or miscarriage, we occasionally find excessive irritation of the uterus, attended with intense neuralgic pain over the abdomen, and a suppression of the lochial discharge manifested, producing a disordered state of every function of the body, giving origin to a set of symptoms often mistaken for puerperal fever and peritonitis." Dr. Bird relates a good case of this kind. Susan Haws, aged 29, was admitted under his care at the Finsbury Dispensary. She had always been ailing since menstruation commenced, and worse since marriage; she had pains in the hip and loins as well as over the pubes, darting to the back and extending to the left breast and between the shoulders, with excessive low spirits and fits of an hysteric character.]

"All these symptoms are always much more intense when the catamenia appear. For the last two years she has been troubled with excessive leucorrhœal discharge. Two days before she became my patient, she was seized with a fit of an epileptic character, she being then at the termination of a third pregnancy. For this she was bled copiously, and a few hours afterwards was delivered of a healthy child. During the last few months of utero-gestation, she had been subject to diarrhœa, and the genital organs had been so irritable, that sexual intercourse was attended with excessive pain, and was always followed by an increase of the leucorrhœal discharge, and of the pains above described. After her labour, the lochiæ became copious, her milk abundant, and she appeared well until forty-eight hours had elapsed, when she came under my care for an attack, as it was stated, of peritonitis. I found her lying in bed on her back, with her legs drawn up; her abdomen tumid, and so exquisitely tender that the slightest touch produced the most intense pain; her features were contracted, and presented an aspect of the utmost anxiety; her eyes were suffused; her tongue white, but moist; her pulse 100, small, but jerking; the urine was very

scanty, and nearly brown from its extreme concentration. The woman did not lie still and quiet, but kept tossing about from side to side uttering loud and incoherent screams; she threw her arms wildly over her head, and seemed scarcely conscious of any thing around her, until an attempt was made to touch, *or even approach* the abdomen, when she shrunk back and cried out in an incoherent manner. I found that she had not slept the whole night from excessive rigors, which had continued nearly without intermission for eight hours, and that these were followed by heat and sweating, and had terminated in the attack I witnessed. The abdominal pain appeared to be most intense about the pubic region and over the cœcum, and to become more severe every five or ten minutes, never however entirely ceasing.

The practitioner who had been called to this patient early in the morning before I saw her, had covered the abdomen with leeches, as her friends resolutely refused allowing her to be bled from the arm, and had given a large dose of calomel; the pain had, however, become much more severe, and the paroxysms more frequent since its administration. The lochiæ had ceased in the course of the night, and the bowels had been once opened during the previous twenty-four hours.

℞. Hydrarg. c. Creta. gr. iv. statim; Olei Ricini. ℥vj. post horam;
Opii puri, gr. j.

Antim. Tart. gr. ¼, Misce. Ft. pilul, nocte maneque cap. And a large bran-bag fomentation was ordered to be applied to the abdomen as hot as it could be borne, and continued during the day. She was ordered to take mutton-broth and gruel *ad libitum*.

Feb. 19. A scanty show of the lochiæ has appeared in the night; bowels freely open; dejections dark, fœtid, and containing scybalæ; she had had some sleep in the night; tongue white but moist; pulse 100, small and compressible; abdomen exquisitely tender on pressure, but the paroxysms of pain are less frequent, although still severe; she still utters loud cries on the slightest pressure being applied to the abdomen; she has passed no water, and not above an ounce of turbid, dark urine was removed by the catheter; the surface is still hot, but much moister; the bran-bags have been kept constantly applied. Rep. Ol. Ricini, pilulæ, et fotus.

20th. Has passed an excellent night; bowels freely open, with much dark, fœtid, and somewhat scybalous matter; no fresh rigors; lochiæ copious; abdominal tenderness less; the paroxysms of pain have nearly ceased; urine abundant. Rep. pilulæ et fotus.

She continued mending until the 25th, when she was reported convalescent; still, however, having an irritable condition of the uterus left, as shown by pains about the loins, hips, and pubes. On March 14th, she again became my patient for what was stated to be pleurisy, ushered in by intense rigors, followed by heat and sweating. I found her lying in bed on the left side, breathing with extreme difficulty, every respiration being accompanied by a cry of pain; she referred her suffering to a space under the left breast extending to the margin of the ribs. On attempting to turn her in bed, she declared the pain and difficulty of breathing to be insufferable. On examining her chest I could not detect any lesion. Her pulse was 100, small, and rather jerking; pressure over the uterus produced intense pain; her bowels had been constipated for two days, and the leucorrhœal discharge was profuse.

℞. Ol. Ricini. f. ℥j c. T. Opii *m*xx. statim.—Opii, gr. j. Antim, Tart. gr. ¼, ter die.

15th. Numerous scybalous masses were brought away by the oil; she had passed a good night, and had perspired copiously; the pain had nearly ceased. Some wine and porter were allowed her, and she became in a few days once more convalescent. On the 30th March, she walked to my house, apparently well, complaining, however, of a dull pain shooting down the left leg, causing her to draw the limb after her in walking; the leucorrhœal discharge, and the symptoms of irritable uterus still continue. She attributed the pain of the leg to sexual intercourse, which had produced such excessive pain, that she fainted.

In this case we have an example of a woman whose nervous system has been

from the commencement of menstruation always more or less deranged from an irritable state of the uterus, and its attendant, hysteric epilepsy. The abundant leucorrhœal discharge, even during pregnancy, sufficiently attests the deranged state of the uterine functions. On labour commencing, we find this state reacts on the cerebro-spinal system, and a formidable apoplectic fit, attended with complete unconsciousness, is the result. The labour terminates, she commences suckling her child, and forty-eight hours scarcely elapse ere the peculiar set of symptoms indicative of intense uterine irritation supervene. The suppression of the lochiæ and urine, her position in bed, the pulse, state of the tongue, skin, and abdominal tenderness, all preceded by rigors, would appear to indicate that much dreaded disease, puerperal peritonitis; but the incoherent screams, the wild and unmeaning expression of countenance, the tossing of her arms, and the constant shifting of her position in bed, as well as the crying out, on the mere approach of the hand to the abdomen, and the pain occurring in paroxysms, pointed out, on the other hand, the existence of excessive irritation, and unmasked the true character of the disease. The result of the treatment fully justified the diagnosis. But scarcely had a fortnight elapsed from the time of her convalescence, when, after two days' constipation, rigors again came on, the uterine discharge then ceases, and all the general symptoms of an intense pleurisy appear. Again, a comparison of the symptoms presented by the patient, and an examination of the chest by auscultation, develope the nature of the ailment, and the woman is again relieved. She walks about, performs her ordinary domestic duties, still having severe lumbar and pelvic pains, when a pseudo-paralysis of the left leg, following a direct irritation being applied to the uterus, makes its appearance, all pointing out the internal irritable condition of that organ, and justifying our regarding it as the predisposing cause of the various attacks suffered by this patient after parturition.

I am quite aware that cases of this kind would be by many regarded as essentially arising from intestinal irritation, and would consequently be classed with those interesting cases of head affection described by Dr. M. Hall, as produced by that cause, and so frequently occurring in the puerperal stools. By others, again, these maladies would be, and have been, traced to a strictly constitutional origin. But with regard to the first view, viz., that puerperal neuralgia arises from intestinal irritation, I would remark, that we have equal evidence of the derangement of every function in the body; the secretions of the skin and kidney are in most instances deficient, those of the liver and mucous surfaces are always more or less vitiated, and the bowels, although often constipated, are occasionally acting too energetically, or in some cases are tolerably regular; but the uterine functions are, so far as I have seen, invariably affected, the secretion being either entirely arrested, or becoming very fœtid and viscid, and as one or other of these states always occurs, it is fair to regard them as the essential predisposing causes to the production of the neuralgic state under consideration. Can it be supposed, I would ask, that two days' constipation would alone be adequate to the production of so severe a set of symptoms as we find manifested in the first case detailed in this paper, providing some other important source of irritation had not been exerting its influence upon the patient? Is it, indeed, reasonable to suppose that a slight constipation, a symptom of such frequent occurrence during the puerperal state, could develope so serious a train of symptoms, unless some other function was so manifestly imperfect as to produce a generally irritable condition of the nervous system, and thereby rendering the body obnoxious to attacks of disease from exciting causes, which, in the ordinary state, and when free from such depressing influences, would be almost without action upon it? I regard the depressed state of the nervous system produced by the irritable condition of the womb as the predisposing cause of these attacks, and any slightly deranged function, whether of the skin, liver, or bowels, will act as an exciting cause upon such a deranged state of the system, and develope in full force the severe neuralgic attacks under consideration.

With regard to the diagnosis of these neuralgic affections, the comparison of the different symptoms presented by the patient will generally be the best guide of the practitioner. Every symptom of genuine peritonitis may be present in

these attacks, but not at the same time; again, the accession of the pain in paroxysms, the screaming out, *ere the hand is in contact with the abdomen*, or when it has barely touched the parietes; the fact of our often being able to apply considerable pressure without pain when the patient's attention is arrested by a sudden exclamation, an abrupt query, or her infant's cries, will generally enable the physician to detect the true nature of the disease. The excessive depression of spirits, and often the strange and groundless delusions of the patient, the accession of an occasional hysteric convulsion, will also assist in forming a correct diagnosis, a task at all times of no small difficulty in these cases.

London and Edinburgh Monthly Journal of Medical Science, Jan. 1843. *p.* 31.

11.—EFFECTS OF IODIDE OF POTASSIUM ON THE SYSTEM.

By M. Ricord, Paris.

The following observations on this subject are extracted from a memoir on pathognomonic action of the iodide, recently published in Paris, by M. Ricord:

Of all the tissues of the human body, the skin is decidedly that which is most susceptible of the action of this medicament. Eczema, herpes, erythema, impetigo, rupia, an affection simulating acne, &c., are common in patients submitted to its influence; and, in short, there is scarcely any kind of cutaneous disease which, in different idiosyncracies, may not be excited by iodide of potassium, though these effects may be mostly made to disappear by the discontinuance of the remedy. Less decided, but still very strongly marked, is the influence of the iodide on the digestive organs. In most cases the functions of the stomach, &c., are roused into great activity: patients gain appetite and fat. Occasionally, indeed, this effect passes a salutary limit, and the appetite becomes ravenous, or acute pains are felt at the cardiac extremity of the stomach. These pains, however, seem to be wholly gastralgic; they are not attended with thirst, furred tongue, fever, &c., or increased on pressure, or during the period of digestion; and in only a few individuals does a veritable inflammation of the stomach or intestines occur, causing vomiting, diarrhœa, &c. Salivation is a common effect, and sometimes the quantity of saliva secreted is equal to that in the highest degree of mercurial salivation, but it appears to be of a different character. M. Ricord says "it resembles greatly the ptyalism of pregnant women. The saliva is not viscous, and it seems not only to emanate from the mouth, but to be regurgitated. The mucous membrane of the mouth may be a little œdematous and irritable, but no inflammation or ulceration is perceptible, as in mercurial salivation, nor is the breath tainted, neither are the salivary glands the seat of any swelling."

Iodide of potassium augments considerably the action of the kidneys. One patient of M. Ricord, at the Hospital des Veneriens, at Paris, while under its influence, passed daily from forty to fifty litres (the litre equal to 5-6ths of the imperial quart) of urine, drinking however in an equivalent ratio. This enormous secretion always ceased whenever the employment of the iodide was suspended. In its character the fluid differed little from ordinary urine, except in containing evident traces of the salt. The circulation appears less influenced by iodide of potassium than most of the other functions; the pulse is commonly neither accelerated by it nor retarded. The instances in which the former condition has been remarked have been, for the most part, those in which a slight gastro-intestinal inflammation has been incurred. The iodide appears to exert an influence, however, on the physical constitution of the blood. This, under its influence, becomes less plastic; and nasal, pulmonary, intestinal, &c., hæmorrhages are more liable to occur and persist in persons of a scorbutic, scrofulous, or chlorotic habit of body. Some symptoms, calculated to alarm the practitioners not accustomed to employ this remedy, or frequently to witness its effects, are vascular injection and tumefaction of the conjunctiva, with œdema and infiltration of the submucous cellular tissue adjacent. There is little, if any, tendency to suppuration in this inflammation, and it is a symptom which most usually appears only at the commencement of a course of the iodide, and rarely recurs. But it is important to avoid mistaking it for a venereal or gonorrhœal *ophthalmia, to which it appears* to bear some analogy. A somewhat similar af

fection sometimes extends under its use to the nasal mucous membrane, producing coryza, though unattended with sneezing, and without any disposition to pass into a suppurative stage. "The catarrhal mucus, provoked by iodide of potassium, *does not ripen* into matter of a viscous quality; and, indeed, if previously to the administration of the remedy there had existed a purulent secretion in the nasal fossæ, this secretion, unless it had its origin in a carious state of the bones, would, under the influence of the iodide, probably diminish and disappear. In some few individuals the effects above stated obtain in the bronchi, instead of the pituitary membrane or conjunctiva. But here, also, symptoms of any grave affection are absent; there is little cough or symptomatic fever; and, though a good deal of expectoration may take place, it is never of a suppurative kind."

The impressions of the iodide on the cerebro-spinal nervous system are sometimes perceptible in cerebral excitement proceeding from congestion, with symptoms like those of ordinary intoxication. At other times the motor nerves are slightly affected, giving rise to *subsultus tendinum* in a slight degree; and it is said that amaurosis has on rare occasions supervened.

The genito-urinary organs are among those which are most susceptible of the influence of the iodide of potassium. M. Ricord says, "I have been able to trace the fresh access of blennorrhœas ineffectually got rid of previously, or the exasperation of those actually existing, so frequently to the use of this medicament, that the existence or recent presence of a blennorrhœa I regard as its temporary contra-indication. But, perhaps (on the principle '*similia similibus*,' probably) advantage may be derived from the iodide of potassium in some cases of blennorrhœa."

Most of the inconveniences named above, as attending the employment of the remedy, do so in only a small proportion of cases; and few, even though having reached their acme, last a week after the suspension of the remedy, or a diminution of its dose. In a majority of cases, "not to lose time by inefficient treatment," M. Ricord advises the employment from the first of pretty large doses, that is to say, of six or seven grains, three times a-day, which doses may doubled in the course of a week, if required. In his experience it has seldom been necessary to administer the remedy to a greater extent than about two scruples daily, or to a less extent than one scruple in the same period. M. Ricord remarks that in cases in which both iodide of potassium and mercury are indicated, he prefers giving them on alternate days, or at other separate times, say at intervals of two hours apart, in preference to administering them in conjunction. His reason seems to be that the stomach tolerates each much better separately.

Lancet, Jan. 28, 1843, p. 652.

The iodide of potassium possesses the remarkable property of causing determination of diseased action to the skin. In cases of what may be termed "suppressed measles" and "scarlatina" it will frequently induce a healthful reaction under the most desperate circumstances. One or two grains, according to the age of the patient, under twelve years, may be dissolved in a quantity of sugared water, and administered, repeatedly, as an ordinary drink, the whole quantity being given in twenty-four hours, for three or four days. In measles, a small plaster to the chest assists the peculiar action of the iodine. In scarlatina, the compound tincture of iodine, diluted with three or four parts of water, may be frequently applied, by means of a camel-hair brush, to the front and sides of the throat and neck. Milk is injurious during the first two or three days, in cases either of measles or scarlatina. I have not had an opportunity of giving iodine to individuals suffering from small-pox, but think it might prove serviceable, especially after the appearance of the eruption, as anticipatory of secondary fever.

Lancet, Jan. 21, 1843, p. 632.

12.—TETANUS SUCCESSFULLY TREATED....By Dr. P. J. Baudut, Cuba.

[In this case a small splinter three-quarters of an inch long, and as thick as a pin, was by an accident driven under the integuments of the left thigh, between the sartorious and triceps adductor muscles. In eight days the *patient began to feel uneasy about his* jaws, and the rigidity of tetanus

rapidly followed; and about eighteen days after the injury the disease was fast advancing to a fatal termination, on which day, says Dr. Bauduy,]

I found all the bad symptoms increased; can no longer pass his urine; can scarcely open the jaws at all; spasms stronger and more frequent; has had no stool; considerable anxiety of countenance; can swallow, but with the greatest difficulty, and suffers excruciating pain. I immediately dilated the wound freely (the splinter had been extracted only a few days before by his physician), and applied to it *the actual cautery*, and ordered hot emollient cataplasms to be kept over it. An injection of oil of sweet almonds, Castile soap, and molasses, in which a clove or two of garlic should be bruised, to be given immediately, and repeated every four hours until morning; frictions of hot oil, with bruised garlic, over abdomen and throat, and cataplasms of tobacco over pubal region, in order to overcome the spasm of sphincter of bladder. Ordered him for next morning a pill of ten grains of sub-nitrate of mercury—a medicine of much power much used in this country, to which I believe its use is almost entirely confined; it is powerfully emetic, cathartic, and diaphoretic; its effects in traumatic tetanus are often wonderful, and, altogether, it is a medicine possessed of such important powers as to merit much attention. It is an empirical remedy, but one that deserves to be tried by the profession. I propose, on some other occasion, to furnish the readers of your Journal with an account of its powers, and the diseases in which I have found it useful. Ordered, likewise, frictions of hot oil, in which should be dissolved nitrate of mercury, one grain to the ounce, to the abdomen, thighs, knees, neck, jaws, and inside of the shoulders, to be repeated every 3 or 4 hours. Lukewarm water, with a few drops of spirit of nitrous æther for drink.

25. Saw him about 1, p.m. The nitrate of mercury produced copious vomiting and four or five large fæcal evacuations; has passed his urine without much difficulty, and in large quantities; is perspiring pretty freely; belly much softer; says he feels much better; has had no shooting pain from sternum to spine; looks much more cheerful; pulse natural; slight thirst. Ordered a small blister to be put on the wound; ordered two or three purgative injections to be given in the course of the afternoon. Eight, p.m., saw him again. Injections produced two copious stools. Gave him half a grain of sulphate of morphia; ordered frictions of nitrate of mercury to be continued, and ten more grains of the same to be taken early next morning.

26. Eight a.m. Slept well last night, but suffered from slight difficulty in urinating. Took the nitrate of mercury at five, a.m. Has vomited but once, and has not been purged; belly a little harder; has had slight returns of the shooting pain from sternum to spine; is bathed in perspiration; is more dejected—says he will die. Ordered a purgative enema every hour till he evacuates freely, and frictions of nitrate of mercury to be continued.

Six p.m. Profuse perspiration still continues; complains of tongue; lips and whole mouth paining him; pulse 65, soft, rather irregular; belly much softer; has urinated freely, and had several large evacuations; opens his jaws nearly as well as in health; tongue coated with white fur, edges and tip red. Ordered another purgative injection; frictions still to be continued; tobacco cataplasms to abdomen; sulphate of morphia half a grain, every hour.

27. 5 p.m. Passed a good night. Had several stools, and complains of tenesmus, and passes blood in the evacuations; urinates very freely, but has still very slight pain; belly quite as soft as natural; has had but very few and very slight shooting pains from sternum to spine; opens jaws freely; swallows easily; cheerful; much thirst; pulse 84, soft, regular; tongue coated with thick white fur; complains much of mouth and throat; craves for food; blister on wound has had no effect but that of causing abundant suppuration. Sulphate of morphia half a grain, to be continued every hour; frictions to be still continued, and tobacco cataplasms. As I think that there is now slight opisthotonos, I ordered strong tartar emetic ointment to be rubbed in between shoulders. Injections of starch, with half a grain of sulphate of morphia every sixth hour, if evacuations continued. Basilicon to the wound. Weather since yesterday morning very unfavourable—cold north-easterly wind, with continual showers of rain.

29. Could not see him yesterday on account of continued heavy rain. To-day, at 10 a.m., found him better; no shooting pains; jaws open quite freely; no opisthotonos, but belly is harder, and there is considerable difficulty in urinating; bloody stools were stopt by the injections on the night of the 27th; profuse salivation; mouth, gums, and lips very much swelled, full of small ulcers; tongue covered with thick fur, edges very red, and small ulcers on them; slept very well last night; not much thirst or appetite; pulse 72, soft, regular. Ordered frictions of nitrate of mercury to be stopt; one ounce of castor oil to be given, and hot tisan of elder blossoms and borage leaves, with sweet spirits of nitre, a drink. Frictions of hot olive oil, spirits of ammonia, and tincture of opium over jaws and throat. Frictions of tartar-emetic to be discontinued, as pimples are very numerous and sore. Gargles of lead water and infusion of rose leaves. Sulphate of morphia, half a grain every six hours.

31. Ptyalism still continues, but less; mouth less swelled, less painful; tongue coated with thick white fur, resembling coat of white lead paint, blackened in many places by gargle; jaws open naturally; belly still hard, much difficulty in passing the urine; bowels regular; no thirst or appetite; chest very prominent, and some rigidity of muscles of back; no shooting pains; no opisthotonos: pulse 72, regular. Ordered a few drops tincture of valerian to be added to his tisan; sulphate of morphia, quarter of a grain; camphor three grains, every three hours. Emollient fomentations over pubal region; frictions of oil, and spirits of ammonia, &c., to be continued to fauces; wound suppurates freely; gargle continued, &c.

November 2, five, P. M. Is better; pulse 72, regular; quite cheerful; opens jaws very well; less prominence of chest; less rigidity of muscles of back; ptyalism nearly ceased; mouth much better; gums lees swelled, and less spongy; tongue still covered with same white thick fur, cleansing on edges and tip; bowels very costive, and great difficulty in passing his urine—amounts to almost total retention; valerian was not given; occasionally he has slight shooting pain from sternum to spine, when belly becomes very hard, limbs flexed and rigid; belly otherwise less hard; quite cheerful; sleeps well; appetite improved; and slight thirst. Ordered purgative injections to be repeated until he evacuates freely; root of valerian to be added to tisan; introduced catheter, found considerable resistance at neck of bladder, but by holding it there some time, and pressing it steadily, but very gently, forward, and at the same time diverting patient's attention, I finally overcame the spasm; drew off but a small quantity. Ordered for next morning compound senna tea; a little more nutritious aliment allowed; tisan and other medicines continued as before, except morphia, which is to be suspended.

5. Much better; no pain whatever; purge had operated very freely, his bowels still continue loose; ptyalism has increased; tongue clear, except at back part, where there is still a thick fur; gums very red, tender but hard; pulse 72, natural; belly soft; appetite very good; sleeps well; walked about the room to-day; no longer any difficulty in passing the urine; jaws open freely. Ordered gargle of tincture of myrrh, tincture of guaiacum, and infusion of cinchona.

8. Much better—convalescent. Ordered all medicine except gargle to be stopt. 12. Met him riding out; is quite well; wound closed.—*Medical Examiner.* *Provincial Med. and Surg. Journal, Dec. 31, 1842, p. 269.*

13.—ON PREPARING A CONCENTRATED CAMPHOR MIXTURE.

By John Fordred, Esq., Ashford, Kent.

The principal points to be attained in preparing a "mistura camphoræ concentrata" are three: 1st. It must be perfectly colourless. 2d. It must contain as little spirit as possible. 3d. When mixed with the due quantity of water, it must approximate as closely as possible to the camphor mixture of the London Pharmacopœia.

The first formula, I believe, ever published, appeared in Bateman's Magnacopia, edit. 1836. This has been freqently copied. The form Mr. Ladbury favored you with is the same, save that he has reduced the portion of the spirit of

camphor from 12 ounces to 3—for what purpose I know not. I need scarcely say that a mixture prepared from this receipt, partakes more of the character of *myrrh* than *camphor*. After repeated trials of various formulæ, to all of which there appeared some objection, I have found the following to be the best adapted for practical purposes:

MISTURÆ CAMPHORÆ CONCENTRATA.

℞. Tincturæ Camphoræ, P.L., f℥j. ℥v.; *Tincturæ Myrrhæ Pallidæ, *mxxx.*; Spiritus Vini Rectificati ad f℥iv. M. f℥iv. ad f℥xvj. Aquæ Puræ=Mist. Camph.

Note.—If absolute alcohol is employed, a less quantity will be required.

* TINCTURA MYRRHÆ PALLIDÆ.

℞. Tincturæ Myrrhæ P.L., ℥iij.; P. Carbonis Animalis, ℥j.

Digest for fourteen days, frequently shaking; then filter.

The best method of mixing this, is to measure the requisite quantity of water *first*, and then add the solution of camphor to it. Those who object to the addition of the myrrh, though in so small a quantity, may omit it; but a solution so prepared does not mix so readily with water—it is some time before the whole of the camphor is taken up. Undoubtedly, there is something mysterious in the action of myrrh on camphor, which, I believe, has not yet been satisfactorily explained. We know for a certainty that the large quantity of spirit present in all concentrated camphor mixtures is the immediate cause of the ready solution of the camphor in the water, but still the myrrh in some way or other materially assists the *rapidity* of the action. A camphor mixture made with the foregoing essence contains ·76 of a grain of camphor in the fluid ounce, equivalent to rather more than ¾ of a grain. This, although, somewhat deficient, is, I think, as near an approximation as can be obtained without unduly increasing the quantity of the spirit. Far be it from me to advise the substitution of this for the authorised camphor mixture, yet there are times and seasons in which even a *conscientious* chemist and druggist would not scruple to employ the "concentrated infusions," and it is in like emergencies that he would make use of a "concentrated camphor mixture." *Pharmaceutical Journal, Jan.* 1843, *p.* 468.

14.—CASE SHOWING THE EFFICACY OF STRYCHNINE in Paralysis of the Face.

By Dr. Joslin, New York.

A young man, W. H. L., had been for the last four days unable to shut his mouth, except by means of his fingers, or by the impulse of the air against them during a forced respiration. This was the defect which appeared to give him most concern, as it affected his speech. Of course, he could articulate no words containing labial letters. From this circumstance, and the expression—or rather total want of expression—of his face, I immediately perceived that there was a paralysis of all the muscles of the face which were supplied by the portio dura. Those supplied exclusively by other nerves, were wholly unaffected. He had perfect control of the tongue and of the masseter, temporal and other muscles specially appropriated to mastication. Still one difficulty existed in this operation, viz., an inability to keep the food properly between the teeth. This was to be anticipated, inasmuch as the buccinator, employed in this office, is also connected with the function of respiration. The patient was wholly incapable of smiling or frowning, or closing the eyelids, from paralysis of the zygomatici, corrugator supercilii, orbicularis palpebrarum, &c. When I requested him to close his eyes, the lower lid did not rise at all, but the eyeball rolled extensively upward under the upper lid, which descended a little, when I requested him to direct the eyes steadily toward me. While attempting to shut them, he found it impossible to cover the cornea.

As the paralysis affected both sides of the face, but did not extend beyond it, I inferred that the disease had originated neither at the origin nor in the course of the nerve, but at its organic extremities, and probably in consequence of an application of lead to the mouth. The patient's answer to an inquiry on this point, tended to confirm this suspicion. I learned that he was a printer, and had been holding types in his mouth, when at work as a compositor. He had formerly done so, but on learning that printer's types were poisonous, had, until

within a short time previous, nearly discontinued the practice. He was at this time, perhaps more predisposed to the affection in consequence of some exposure to cold a few days before, and of previous general debility for some months, induced partly by an exhausting hæmorrhage from the leg.

Treatment.—A cathartic was directed, and the application of tincture of strychnine to the cuticle of the face—about one drachm of a solution containing about three grains of strychnine, to an ounce of alcohol, was applied to each side three times a day, and the absorption assisted by friction. This lotion sometimes produced a little twitching of the muscles, fifteen or twenty minutes after its application; and under its use the muscles of the face completely recovered their power in two or two and a half months. At the end of one month the application to the left cheek was discontinued, as the muscles on that side had completely recovered. On the opposite side, the corrugator supercilii and muscles of the mouth, were more benefitted by the first month's treatment, than the orbicularis palpebrarum. For complete recovery, this side required at least twice as much time as the opposide side of the face.

[The use of strychnine in cases of paralysis, is perhaps too little resorted to. This arises from the dangerous effects which occasionally ensue. It is one of those few medicines whose therapeutic powers have not been discovered by mere chance. Fouquier was led to suspect its utility in paralysis from its stimulating effects on the muscular system: and we should think that its value is too frequently depreciated, from its indiscriminate use, as there are many cases of paralysis which are well known to arise from such lesions of the nervous system as would be materially aggravated by any stimulant. For example, when the paralysis is owing to some effusion of blood into the substance, or upon the surface of the nervous centre, which is a too frequent occurrence, it is evident the strychnine would be highly injurious; also when it arises from softening of the brain, whether that change takes place, according to Lallemand, before hæmorrhage, or after it. Sometimes, however, when the paralysis has continued a long time, and when the effusion on the brain, or within its substance, may be supposed to have been removed, the muscles continue unable to regain their power, and then strychnine will be found serviceable. But it is chiefly when the nervous centre is supposed to be uninjured, and the paralysis functional, that strychnine will be found most efficacious: although we are inclined to think, with Andral, that there are few cases of what may be called functional paralysis, without some organic lesion, though we cannot detect it. Dr. Joslin ends his paper by making some interesting remarks on the effects of strychnine in another case. He says:]

It is possible that some light may be thrown on the subject of the apparent special determination of the action of strychnine to affected muscles, by some facts noticed in this case. When the spasmodic action came on, while the patient was sitting in his chair, with his arm but slightly flexed, and his leg much more flexed, he noticed that at the instant of the spasmodic action, the fore arm always became flexed and the leg extended, the latter more powerfully. Why this special influence on the extensors of one limb, and the flexors of the other? It will be perceived that the action, both in direction and intensity, had some relation to the previous position; and it was subsequently ascertained, that whether the action in either limb was flexion or extension, depended on its previous position. If much flexed, it became extended—if extended, flexed. Should the same results be observed in other patients, it might, perhaps, enable us to advance one more step in the explanation or generalisation of the special influence on paralysed muscles. The spasmodic contractions are more readily excited in muscles relaxed by paralysis, than in those which are in the normal condition. If this special determination of action is due chiefly to previous relaxation, we might expect it to be oftener manifested in the more relaxed, than in the more tense condition of the muscles, whether this relaxation had originated in paralysis, position, or volition.

It may be proper to state some experiments made on this patient which were suggested by accident, and which have a bearing on some interesting points of the theory of muscular action, if not upon those points of it involved in the

above discussion. The experiments were suggested during the application of powdered strychnine to a portion of the instep, from which the cuticle had been removed. But I will first take this occasion to state, that as a therapeutic experiment, it was unsuccessful. Though the application was made rather freely to the dermis of the anterior part of the ankle and of the top of the foot denuded by successive epispastics, there was no appreciable effect; and I was induced to suspect the endermic method to be inferior both to the internal use and to the cuticular application which some have denominated the intraleptic method. On a certain day, as I was pouring from a paper the powdered strychnine upon the anterior and upper part of the foot, the paper came accidentally in contact with the sensitive surface of the blistered part, whose sensibility like that of every other part had been unaffected by the disease. The muscles of the limb, over which neither the action of the powder nor the volition of the patient had been for some time able to exercise the slightest control, were instantly called into forcible action by the first contact of the edge of the paper. The foot was thrown upwards, chiefly by the extensor of the leg. The paper was kicked and its contents scattered.

The potency of mechanical irritation is of much less interest than the direction of the motion. On this subject I made repeated experiments on two opposite portions of the surface of the foot, which always resulted in producing a motion towards the irritated part, a motion chiefly due to the extensors and flexors of the leg situated on the thigh, and of course at a great distance from the part directly irritated. Although the patient was incapable of moving the foot by a voluntary effort, it was invariably and involuntarily thrown upward by mechanical irritation applied to the vesicated surface on the upper side, and as invariably drawn downwards and backwards by titillation of the sole or plantar region. Thus, irritation of the surface opposite one of the extensors of the toes, the extensor brevis digitorum pedis, called into action the extensors of the leg, while irritation of the surface opposite one of the flexors of the toes, the flexor brevis digitorum pedis, called into action the flexors of the leg.

American Journal of Medical Sciences, Oct. 1842, *p.* 322.

15.—SULPHURIC ACID A PREVENTIVE OF LEAD COLIC.

By E. W. Benson, Esq., Birmingham.

[In most white-lead works the prevalence of colic among the workmen is very distressing, notwithstanding all the precautions which can be adopted, such as the use of gloves, strict attention to cleanliness, change of dress on leaving work, carrying off the dust which arises in some of the operations, &c. Mr. Benson says:]

I met with a statement some time since, that "sulphuric lemonade" had been successfully used at a white-lead manufactory in France as a preventive of the injurious effects of white lead, and it occurred to me that by adding *sulphuric acid* to the treacle-beer then used by our people, its supposed efficacy might be tested. This idea was carried into effect in the summer of 1841, and the results have proved most gratifying, as, although during several weeks after the addition of the sulphuric acid to the treacle beverage, little advantage seemed to be derived, yet the cases of lead colic became gradually less frequent, and since October of that year, or during a period of fifteen months, not a single case of lead colic has occurred among the people. As no other change has taken place in the circumstances under which these men are placed, nor in the influence to which they are exposed, I can only attribute this gratifying result to the employment of the sulphuric acid, which I conceive produces its effect by converting the highly poisonous carbonate of lead into the innocuous sulphate of lead. I am therefore anxious that the work-people employed at other manufactories should be protected by the means which have been found so perfectly effective in this establishment. It will be seen by the annexed formula that bicarbonate of soda is also added to the treacle-beer, and that, consequently, sulphate of soda is produced, but the proportions of soda and sulphuric acid are such that rather has less than one half of the sulphuric acid becomes neutralised. The object in adding bicarbonate of soda is to give a pleasant brisk to the beverage.

FORMULA FOR PREPARING THE SULPHURIC BEER.

Take of treacle, 15 lbs.; bruised ginger, ¼ lb.; water, 12 gallons; yeast, 1 quart; bicarbonate of soda, 1½ ounce: sulphuric acid (oil of vitriol), 1½ ounce, by weight.

Boil the ginger in two gallons of water; add the treacle and the remainder of the water, hot. When nearly cold transfer it to a cask, and add the yeast to cause fermentation. When this has nearly ceased add the sulphuric acid, previously diluted with eight times its quantity of water, and then add the bicarbonate of soda, dissolved in one quart of water. Close up the cask, and in three or four days the beer will be fit for use. As acetous fermentation speedily takes place, particularly in hot weather, new supplies should be prepared as required. *Lancet, Dec.* 17, 1842, *p.* 435.

16.—HYDROCEPHALOUS TREATED BY IODINE.

By John Christie, M.D., M.R.C.S.L., Keith.

[In Retrospect, Part IV, Art. 35, and Part VI, Art. 7, will be found interesting cases of this disease treated successfully by the above remedy. The subjoined case confirms the value of this mode of treatment. The child was eight years old, and before Dr. Christie's visit, had been ill a week, and had an attack of convulsions the previous evening.]

He was screaming and tossing about, making frequent complaints of his head, the pain being referred to the forehead and temples; his face was flushed, head hot, eyes brilliant, intolerant of light, and pupils contracted; his skin was harsh and dry, tongue white, pulse frequent, and sharp, urine scanty and high coloured, his bowels were costive, and his breath offensive. The symptoms above enumerated, being apparently those of acute hydrocephalus, blood was abstracted from the arm until *deliquium animi* took place, which occurred when about nine ounces had flowed away. A brisk dose of calomel and jalap was given, and an evaporating lotion applied to the head. I saw him again in six hours; reaction had taken place, and the bowels were still unopened. Four leeches were directed to be applied over the temples, a purgative enema to be administered, and the use of the evaporating lotion to be resumed as soon as the bleeding from the leech bites ceased. A dose, consisting of one grain of calomel, and three of James' powder, was directed to be given every third hour.

11th. I found the patient apparently somewhat better; he had slept very quietly for two hours in the earlier part of the night. The bowels were twice opened during the night; the stools were black, slimy, and offensive; and the pulse was quick, but not so sharp. I ordered the calomel and James' powder to be continued, as well as the lotion.

12 o'clock p.m. Towards evening, he became gradually worse; the pulse grew slower and weaker, and was very easily accelerated on his being raised from the recumbent position; the pupils, when viewed in a moderate and steady light, oscillated, dilated slowly, and at length became fixed; the tongue was loaded, and white; the breath offensive; the urine scanty; and the bowels had not been moved for twenty-four hours. I ordered the dose of calomel and jalap to be repeated, an enema to be administered, and a blister to be applied over the parietal region on each side. The head being still hot, the evaporating lotion was continued; the calomel and James' powder were desired to be omitted until the bowels should be moved.

13th. The bowels have been once moved; the stools were of the same offensive character as formerly; the blister was removed, and the surface dressed with resinous ointment; the patient was much in the same state as at last report; the calomel and antimonial powders were ordered to be continued.

14th and 15th. The same treatment was continued, but with no symptoms of amendment; and early on the morning of the 13th, he had a strong attack of convulsions. He lay with the eyes half closed, moaning frequently, and now and then uttering a loud scream; the pupils were fixed; the urine was passed involuntarily, and there were frequent automatic movements of the left arm and leg; the pulse was also rapid and weak.

The plan of treatment above detailed, having apparently had no influence in arresting the progress of the disease, I resolved to make a trial of iodine, in the

manner mentioned by Maunsell and Evanson, (on Diseases of Children, p 377) and, accordingly, prescribed as follows :—

℞. Iodide of Potassium, sixteen grains; Iodine, four grains; Water, one ounce. Dissolve.

A teaspoonful of this solution was ordered every four hours.

The head was directed to be rubbed with a weak ointment of biniodide of mercury.

16th. No visible amendment could be observed; the bowels had not been opened since the 13th, in consequence of which a dose of castor oil was ordered; the other remedies were continued.

17th. During the night he had a copious flow of urine; the bowels were twice moved; the stools were still offensive; the pupils contracted slightly on being exposed to a strong light; he was otherwise not much improved. 18th, 19th, 20th. During these days considerable improvement took place; the pupils became more sensible to light; there was less restlessness; the automatic movements ceased; the pulse became slower; and in short, all the more formidable symptoms nearly disappeared. The ointment, having caused considerable irritation of the scalp, was discontinued. 21st, 22d, 23d. The iodine was continued until the evening of the 22d.

From this date he went on improving almost hourly, and no untoward symptom supervened to check his restoration to health. His left arm and leg were, for two months nearly powerless, but they gradually recovered, and he now looks quite healthy, his strength and intellect being in no way impaired. I ought to mention, that from the 13th, he was allowed beef tea, arrow-root, and small quantities of wine.

Lon. and Edin. Monthly Journal of Med. Science, Mar. 1843, *p.* 192.

17.—CASE OF TAPPING OF THE BRAIN IN HYDROCEPHALUS.

By Richard G. H. Butcher, Esq.

Maria Burns applied for advice at the South Infirmary, Cork. She stated having had three children, "two of whom died of water on the brain;" the third, she apprehended, was affected in a similar manner, and entreated that something would be done that might afford any chance of relief. Upon examining the patient, a boy 16 months of age, his head was almost transparent, and presented, in different situations, patches where the ossific matter was not deposited, its place being supplied by the common integuments. The sutures were very considerably separated, being from half to three quarters of an inch asunder. The head measured in the fronti-occipital circumference thirteen inches and a half; from ear to ear, across the vertex, nine inches; round the chin and across the vertex nine inches three quarters; the pupils were greatly dilated, and insensible to the stimulus of light. Now and then the child would scream out in the most violent manner, being then immediately attacked with convulsions, which the mother said came on frequently for four days previous to her application for relief at the hospital. Here nothing could be expected from the ordinary methods of treatment, therefore Dr. Woodroffe determined on drawing off the water.

The integuments having been divided with a lancet, a trochar was introduced about three quarters of an inch external to the mesial line, near the junction of the edge of the fontanelle with the margin of the parietal bone. The instrument being inclined a little inwards, in this manner it was directed into the lateral ventricle of the right side; no sooner was the stillet withdrawn than the fluid flowed out freely through the canula. The quantity drawn off amounted to eleven ounces. After the discharge of so large a quantity of fluid, the head lost its tension and globular form, and became so flaccid as to allow the remaining quantity of water to gravitate backwards, giving the head a very elongated appearance. To support the parts a double-headed roller was applied loosely, the edges of the incision being previously brought together with adhesive plaster. The child sunk very low immediately after the operation; however, after some time, the urgent symptoms were suppressed. From this period up to four weeks after, every thing was doing remarkably well, the head filled again,

but not to one-half of its original size. The operation was again performed on the left side, in the same situation as on the right. The child began visibly to improve; no convulsions whatever occurred after the first operation; four weeks more elapsed, and the head was not near the size it presented before the second operation; so much was it lessened, that another operation was deferred for a future period. At this time ten weeks had elapsed; the child was free from convulsions; the eyes were quite sensible to light, and the little patient did not exhibit any lethargic symptoms. In four days after he began to get uneasy and restless; three more had not passed by when he was seized with convulsions that terminated in death. I was immediately called to see the child, and having accused the mother of neglecting it in some way, she acknowledged to have given it wine regularly for five days before, stating, as her reason for so doing, "she thought it would hasten the cure, and not do him any harm, he was so much better."

On examining the head after death, the different places where the ossific matter was wanting were filled up by a membrane, which was almost entirely converted into bone. The sutures were greatly closed in, being not more than the eighth of an inch apart. All the parts within the lateral ventricles appeared in a healthy state; there was no softening of the structure of the brain whatever; no over-gorged condition of the vessels, or increase in vascularity. In this case I think there are some points particularly worthy of attention. First—from the time of the first operation until eleven weeks after, no convulsions ensued. Secondly—four weeks from the first operation the child was sensible to light; and lastly, the relaxed state of the integuments allowed the process of ossification to advance in a most remarkable degree. The treatment after the operation consisted chiefly in cold to the head, local blood-letting, purgatives of calomel and chalk. There is no doubt in this case death was caused by injudicious management of the mother; but, if the reader should continue sceptical as to the propriety of the operation, I would refer him to a case treated successfully by it, in the ninth volume of the Medico-Chirurgical Transactions.

Dublin Journal of Medical Science, March, 1843, *p.* 38.

18.—DIABETES MELLITUS Successfully Treated by IODURET OF IRON.

[This case was admitted into the Hotel Dieu, having experienced the premonitory symptoms of diabetes three weeks previously, which were now completely confirmed; he passed fifteen quarts of urine daily, which contained a considerable quantity of sugar.]

The treatment consisted in restricting him to animal diet, the administration of a bottle of claret daily, with a flask of Bagnols wine, broth without bread, and lemonade, &c., for drink: he also took four pills, each containing five grains of the ioduret of iron, in the twenty-four hours. Under this mode of treatment the quantity of urine discharged soon diminished; after the third day the man passed only twelve quarts: during the subsequent days the quantity underwent a still greater diminution, and the thirst, together with the other symptoms of diabetes, subsided; the urine discharged exceeded the quantity of fluid ingested by about a pint, and contained but a very small proportion of saccharine matter. On the 30th of September he drank about three quarts of tizan, in addition to his wine and broth, and passed four quarts of urine. From the 30th of September to the 4th of October the treatment was continued (the number of pills being increased to five.) and the improvement of the patient kept pace with it; the quantity of urine passed, at the latter date, was nearly normal, and it contained hardly a trace of sugar: the thirst had ceased, the strength was returning, and the patient was enabled to leave the hospital on the 5th of October in good health. He was seen a few days afterwards in town, and continued well.

[The ioduret of iron must have had considerable effect in this case, as the usual diet of animal food, &c. recommended in these cases had previously failed in doing good till combined with this medicine.

Provincial Med. and Surg. Journal, Nov. 5, 1842, *p.* 1?2.

19.—ON THE PREVENTION OF SCURVY.....By WILLIAM BALY, M. D.

[In Retrospect, Part VI., Art. 21, we gave an interesting account of the use of potatoes in sea scurvy, by Mr. Dalton, of Cheltenham. Dr. Baly in the present article shows their efficacy in preventing scurvy in prisons, workhouses, and pauper lunatic asylums. They may be taken at sea in the raw state as recommended by Mr. Dalton, peeled and sliced like cucumbers, in a little vinegar; but are found equally efficacious in the boiled state, which is of course a preferable way of using them when they can be procured in sufficient quantity. On examining the prisoners in the Milbank penitentiary, Dr. Baly found that scurvy was of rather frequent occurrence among the military offenders, while it was never seen among the more numerous class—the convicts. On examining the diet of the former, it was found to consist almost exclusively of bread, meat, gruel, and rice soup, without vegetables; for nine months in the year only one pint of pea soup, with vegetables in it, was allowed each week, and for six months in the year there was allowed half a pound of potatoes weekly; no potatoes, however, seem to have been allowed for the first six months of their imprisonment: whereas the weekly diet of the convicts consisted of one pint and one pint and a half of pea soup, with vegetables, and five pounds of potatoes, besides bread, meat, cheese, gruel, broth, and milk. On perceiving that the existence of scurvy among the military prisoners could only be attributed to the want of vegetable food, Dr. Baly recommended that the allowance of potatoes should be increased to two pounds weekly during the first three months of their imprisonment, three pounds during the second three months, and four pounds after the expiration of six months. This addition to the dietary of the military prisoners was made in January, 1842, and not a single case of scurvy has since appeared. Previous to 1822 the weekly allowance of potatoes was six and seven pounds; after that period the potatoes were wholly omitted, and the consequence was the first commencement of scurvy, which had never before shown itself in the penitentiary. In little more than six months, more than one half of the whole number of prisoners (858) were affected by it. Dr. Baly has since made minute enquiry as to the existence of scurvy in different prisons and pauper lunatic asylums of the country, and finds that he is fully borne out in his opinion, that when this disease exists to any extent it may be attributed in a great measure to the want of potatoes in the diet of the residents. He says]

The facts, then, which I have been able to extract from the Reports of the prison inspectors powerfully corroborate the results of my own experience as to the value of potatoes in preventing scurvy. Wherever this disease has prevailed, there the diet of the prisoners, though often abundant in other respects, has contained no potatoes, or only a very small quantity (as at Wakefield). In several prisons the occurrence of scurvy has wholly ceased on the addition of a few pounds of potatoes being made to the weekly dietary. The circumstance that the Reports make no mention of the prevalence of scurvy in certain prisons, where the nature of the food would lead us to expect it, I have shown to be capable of explanation. I shall only add, that there are many prisons in which the diet, from its unvaried character and the absence of animal food, as well as green vegetables, is apparently most inadequate to the maintenance of health; and where, nevertheless, from its containing abundance of potatoes, scurvy is not produced. Stafford County jail may be taken as an example. In this prison the weekly allowance of food consists of twelve pounds and a quarter of bread, twenty-one pints of gruel, seven pounds of potatoes, and a sufficient quantity of salt. Neither meat nor soup is tasted by the prisoners, yet scurvy does not occur. I have recently had the opportunity of examining seventy prisoners who had been confined in Stafford jail for periods varying from three to six months, and I could not find one who presented any trace of scorbutic disease.

The foregoing facts obviously admit of an important practical application. Other succulent vegetables being comparatively expensive, and their supply un-

certain, potatoes (to the amount of from three to six pounds weekly) ought to form part of the dietary of all prisons, workhouses, pauper-lunatic asylums, and similar institutions, where the food of the inmates is regulated by principles of strict economy. This is already very generally the case. But, besides the instances to the contrary, already adduced from the prison Reports, I may mention that the magistrates of the city of London have recently excluded from the dietary of the prisons under their jurisdiction potatoes and all succulent vegetables, with the exception of the small quantity contained in a pint or two pints of soup allowed weekly. This I cannot but regard as a dangerous experiment. Scurvy has been a frequent disease in lunatic asylums, and still is so in British merchant vessels. In both its occurrence might, without difficulty, be wholly prevented. In the navy, the ships, before putting to sea, are always provided with a sufficient quantity of lemon-juice; but in the merchant-service this is too often neglected, to avoid expense, perhaps, as well as trouble. Potatoes, since they would serve for food, while they preserve the health of the sailors, if not too bulky, might be preferred by many ship-owners.

A glance at the chemical analysis of the potatoe at once explains its antiscorbutic virtue. The various fruits, succulent roots and herbs, which have the property of preventing and curing scurvy, all contain, dissolved in their juices, one or more organic acids—such as the citric, tartaric, and malic acids. Sometimes these acids exist in the free state, but more generally they are combined with potash or lime, or with both these bases. Now potatoes have been submitted to most elaborate chemical examination by Einhoff and Vauquelin; and by both these chemists they have been found to contain a vegetable acid in considerable quantity. According to Einhoff, this acid is the tartaric combined with potash and lime. According to Vauquelin, it is the citric, partly in combination with those bases, and partly in the free state. The farinaceous seeds, as wheat, barley, oats, and rye, which are destitute of antiscorbutic property, contain no organic or vegetable acids. *Med. Gazette, Feb.* 10, 1843, *p.* 702.

20.—OBSERVATIONS ON CASES OF ALBUMINOUS URINE.

By Drs. Bright and Barlow, Physicians to Guy's Hospital, &c.

[A most interesting series of cases is published in the last volume of Guy's Hospital Reports, with reference to disease of the kidney. The male and female clinical wards of that Hospital have been for a time almost exclusively devoted to such patients as were affected with albuminous urine, in order that this interesting and too much neglected disease might be better observed, and the result of observations more regularly and faithfully recorded. The first fruit of this arrangement has been the production of a paper, which occupies above 100 pages of the last No. of Guy's Hospital Reports, and which deserves to form a separate volume rather than a paper in a periodical. As it will not be in our power to find room for more than copious extracts from this paper, we will endeavour to condense into as small a compass as possible some of the most striking symptoms, and the leading indications of the treatment which were adopted. The following case will illustrate the]

Treatment by mild mercurials.—George Hollowell, aged 16, with light hair and eyes, and fair complexion, of middling stature, living in Spitalfields; has lived well, and enjoyed good health, till during the last four months: had measles, hooping-cough, and smallpox when very young, and fever four years ago: has lately been an errand-boy, and has been much exposed to wet and cold in consequence: never, to his knowledge, has taken mercury, or had a blow on the loins: has at times suffered from deafness, and from imperfect vision, in consequence of a speck on the cornea, and about three months ago was subject to severe pain in his loins, which afterwards was felt in the thoracic parietes, and subsequently in the left leg; but he never had any paralytic affection, vertigo, or drowsiness. The urine has been abundant, and during the last two or three weeks he has occasionally been called to micturate once or twice during the night: for the last four months has had cough, with slight expectoration, and shortness of breath on exertion. About two months ago he observed his face

swollen and puffy, and afterwards his legs, his face being most so in the morning; and during the last week his scrotum and penis have become very œdematous. He was admitted on the 20th of May. He now looks bloated and puffy, his cheeks and lips are coloured, the eyes look pale and pearly, the pupils are dilated, the skin warm and dry, but not harsh, and never perspires. The body was generally anasarcous, especially the right side, on which he lies: the bowels rather relaxed, the tongue clean and moist, the appetite good. The left side of the chest is resonant, with the exception of a small portion at the base, where the respiration is distant or inaudible; it is in other parts puerile. On the right side there is extensive dulness, with absence of vibratory thrill when speaking, the dulness varying with his position; respiration is distant, absent at the base; ægophony and bronchial respiration are heard posteriorly about an inch above the lower angle of the scapula, and the right side is larger and more rounded than the left; he has dyspnœa on moving about, and it is increased on lying on the left side; the heart's action is regular, rythm natural, pulse 104, small, compressible, there is no evidence of venous obstruction; respirations thirty a minute, occasionally wheezing; sleeps well; passes about twelve ounces of urine in twenty-four hours, alkaline, of a dark straw colour, and with fishy odour, and of sp. gr. 1025; nitric acid causes effervescence, and a curly precipitate ensues: heat causes little or no opacity, till a drop or two of acid be added; when copious curdy precipitation ensues, with considerable effervescence; saliva is neutral.

He was ordered to take mist. salina, with fifteen minims of antimonial wine, twenty of spt. æth. nitrici, and five of tinct. digitalis, three times a day; and two grains of hyd. c creta, one gr. of p. scillæ, and five grs. of ext. papaveris, every night, and to have low diet; and on the 22d he passed sixty-seven ounces of urine, of sp. gr. 1014; and on the 23d, 100 oz. at 1009; presenting the same reaction as before. The anasarca gradually diminished in his face and upper extremities; the skin continued dry, generally, but perspired at the flexures of the joints, and in the palms of the hands, and the respiration was hurried, being 32 in a minute; the urine, after the 23d, diminished in quantity to about 45 oz. daily, and of sp. gr. 1018 or 1019; and the abnormal sounds on respiration and percussion were confined to the lower part of the chest. He could lie equally well on either side, and the œdema was evident only in the loins and scrotum, and very slightly in the feet and ancles; the bowels continued regular, and he had scarcely any nocturnal calls to micturate, and on the 27th he complained of pains in the orbits, with slight deafness and gravedo; the appetite continued good, the tongue clean, the pulse 100, regular, but the effusion did not diminish much in the thoracic cavity, and there was no tenderness of the gums. He was ordered, on the 30th, to take half a grain of pulv. digitalis, a quarter of a grain of pulv. scillæ, and one grain of pil. hyd. three times a day; but on the 2d of June the digitalis was omitted both in the mixture and powders, as he had been sick; the nausea being preceded by pain and heat across the forehead and eyes, with retching during the night; bowels were open. He was ordered milk-diet.

On the 3d and 4th the urine diminished to twenty-six ounces, and was of sp. gr. 1030: the unpleasant symptoms in the head and forehead subsided, and there was less deafness; but the abdomen was full, and there was deafness on percussion in the right hypochondriac organ. He was ordered a scruple of the colocynth and calomel pill, and a draught of house-medicine, which acted very freely; the urine again increased to about thirty-six ounces daily, and the sp. gr. was from 1019 to 1022, the coagulability being unaltered. He went on without much alteration; the pain in the forehead and heaviness being occasionally present, and he perspired slightly when up.

On the 13th, he was sick; the supra-orbital pain was very severe, and there was puffiness of the left eye-lid. He was ordered to omit the pills first prescribed, and to take half an ounce liq. ammon. acet., and twenty minims of spt. æth. nitr. three times a-day: there was no tenderness of the gums; and thoracic dulness was much diminished; but ægophony below the angle of the scapula still remained.

On the 15th, twenty minims of vin. ferri were given three times a-day in cassia-water; and he continued much the same until the 20th, when the pain in

the forehead was more severe; the pulse 132; and he had shooting pains down his thighs and legs; had passed, during the last twenty-four hours, fifty-eight ounces of alkaline urine, sp. gr. 1018, and very densely coagulable by nitric acid. He was cupped to eight ounces on the nape of the neck, which partially relieved the pain; and on the 2d of July a blister was applied to the same part. On the 4th of July the skin was hot, and the tongue rather furred: he complained of pain in the head, with heaviness and loss of appetite: the pulse was sharp and frequent. He was bled to six ounces, and ordered the acetate of ammonia mixture with antimonial-wine: he was much relieved by the bleeding; and the pyrexia had passed off by the following day: the legs had become more œdematous since his getting up, but the abdomen and loins were less so; he had no return of the pains, but felt languid; and, on the 18th, he passed thirty-two ounces of urine, the average quantity at this period of sp. gr. 1024. He was ordered to take a grain of sulphate of zinc, and three grs. of extract of camomile, night and morning; and the acetate of ammonia mixture with twenty minims of spt. æth. nit. three times a-day. The anasarca continued slightly to increase: the zinc was increased to two grains for a dose; and on the 27th, the spt. æth. nit. was doubled in quantity: the bowels were open once or twice daily.

On the 28th, he was prescribed one-sixth of a grain of elaterium, and two grs. of ext. papaveris, which produced several copious watery evacuations, and made him feel very feeble: and he again complained of the pains in his forehead. There was some swelling of the abdomen, with scarcely detectable fluctuation, and dulness of percussion on the right side.

On the 30th July, one-tenth of a grain of elaterium, and two grains of ext. papaveris, and three grs. of ext. hæmatoxyli, were ordered three times a day; but was discontinued on August the 1st, when he was much the same, the bowels continuing freely open, and the œdema undiminished. He continued without alteration till the 24th, when he complained of the supra-orbital pains and general headache; and was ordered two scruples of pulv. rhei c potass. sulphat.; and equal parts of ung. iodin. comp., and ung. hyd. nit., were ordered to be rubbed in daily over the region of the liver.

From this date to the 13th of September, no reports were taken; but he had a severe attack of peritonitis, for which local depletion and mercurials, &c. were exhibited, and he was now pretty well again: there was moderate œdema of the legs: and at the junction of the right hypochondriac and epigastric regions there was hardness and dulness upon percussion, and fluctuation was detected; the pulse was 88, regular; the skin moist, occasionally perspiring: the urine passed was about fifty ounces, neutral, and rather less coagulable than before: he complained occasionally of pain in the forehead and eyes, and the pupils were very dilated; the abdomen increased gradually in size, and fluctuation became more marked: his aspect was more anæmial and puffy: he complained of thirst, and perspired but very slightly.

The pulse, on the 19th of September, was 96, small, feeble, and compressible; urine was twenty-six ounces of sp. gr. 1036. He was ordered the saline effervescing mixture, with twenty minims of spt. æth. nit., three times a day. The urine increased to about forty-six ounces daily, and was generally of sp. gr. 1020; and continued alkaline or neutral until the 3d of October, when he felt, on the whole, better. The œdema was slight in the legs; the ascites was less, but still very evident; and the urine continued very coagulable. On this day he left the hospital, improved in health, the œdema having subsided. There was still fluid in the abdomen, and the urine was very coagulable, and still neutral, when he was examined in the middle of February, 1843; expressing himself, however, as quite well.

[The following case is a good example to shew *the treatment by elaterium* combined with other medicines.]

Jock Hirsch, aged 40; a large made, dark-complexioned man; a native of Denmark: who, until fifteen years ago, enjoyed very good health: at which time he had an attack of dropsy, which was confined to the abdomen: for which he was laid up in Holland for twenty weeks: from this he recovered. He came to England eleven years since, and continued his occupation of stableman, but

indulged freely in spirits. Since his attack of ascites, he has usually had occasion to micturate once or twice in the night; and he states that his urine has been in less quantity. During the last five winters he has had slight attacks of what he calls inflammation of the chest, from which he has quickly recovered: at those times, he experienced pain in the side, with some difficulty of breathing, and cough.

Six weeks ago, without any obvious cause, but probably from exposure to cold, he noticed his feet and hands were swollen towards night, but in the morning resuming their usual appearance and size. This shortly became aggravated; and the œdema extended up the thighs and legs, and remained constant. He has been treated with diuretics; and for the last two or three days he has been troubled with dyspnœa and cough, with copious expectoration. His urine, latterly, has been passed very frequently, and in very small quantities. He was admitted on July 27th, 1842; and at present his countenance is rather anxious, his eyes pearly, and his face puffy; the tongue moist and white; the skin, generally, moist and soft; the chest is resonant on percussion; but mucous and sonorous rales are heard extensively in both lungs, and respiration is hurried and laborious; his cough is troublesome; the heart's action is normal; the pulse is 84, small; but the artery feels rigid. The legs are very œdematous, and the abdomen full; but fluctuation is not detected; the bowels are confined; the scars of a blister and cupping, are observed over the liver and scrobiculus cordis. The urine passed is about forty ounces in twenty-four hours, the sp. gr. being 1016, and it is very coagulable by heat and acid, and he is called upon several times in the night to pass it. He was ordered, on July 28th, one-fourth of a grain of elaterium three times a day, and half an ounce of castor oil immediately, and to have low diet; after which the bowels were open, but not much; his cough was very troublesome, preventing his sleeping, and he expectorated a good deal of viscid mucus; the œdema diminished in the feet, which were moist, other parts of the body being dry and not perspiring. He continued the elaterium twice or three times a day, according to the condition of the bowels, which were open three or four times daily; and on the 2d of August the acetate of ammonia, with half a drachm of antimonial wine, were ordered three times a day; and the elaterium was given every morning. His cough became less troublesome, the expectoration easier, and diminished, and the respiration less hurried; the bronchitic rales gradually disappeared, he slept better, and perspired partially. The bowels were very open, and the evacuations watery: he complained of pain in his head, and was ordered, on the fifth of August, a grain of camphor, and four of ext. of hyosc. every night; and one-eighth of a grain of elaterium was given every morning. The condition and quantity of the urine was unaltered: and the œdema had very much diminished in the legs, the face being puffy.

On the 9th, the appetite being improved, he was ordered middle diet; the œdema continued diminishing, and the skin became moist; the nocturnal micturitions much less frequent; the bowels were regularly and freely open; and on the 15th the urine passed was about forty ounces in twenty-four hours, rather dingy, very coagulable, and of sp. gr. 1010. He complained much of weakness; the face was puffy and pale, and the legs but very slightly œdematous. He was ordered to take the infus. gent. comp. with ten minims of acid. nit. dil. three times a day, and to omit the elaterium. He improved in strength, and looked better and more lively; the bowels continued regular, and he perspired freely; the urine remaining very coagulable, and the specific gravity being 1012. On August 23d he left the hospital, with very slight œdema of the ancles, and puffiness beneath the eyes. The urine of this patient was found by Dr. Rees to contain 4·5 grains of albumen in a fluid ounce; it contained no lithic acid.

[The next case shows the treatment by *antimonials*, and chiefly by the *potassio-tartrate*, which was also used in most of the cases treated by elaterium.]

Edward Stamford, aged 45; ægrot. four months; a bony, muscular man, with light hair, grey eyes, and tranquil countenance, and rather sallow; leading a sea-faring life in the coasting trade; married, having three children: accus-

tomed to drink porter to the extent of three or four pints daily, but no spirits, and having for the most part enjoyed good health; suffered from rheumatism eight years ago, and from scarlatina twelve years ago, and has had hæmorrhoids to slight extent; has worked hard, and been much exposed to weather and its vicissitudes; never took much mercury, but was once salivated after taking mercury for five days for rheumatism; has had gonorrhœa, never syphilis; has been in the habit of perspiring considerably when at work, but not since his illness; was never in the habit of micturating nocturnally till within the last two months, during which time the secretion of urine has been much more abundant than previously. Four months ago, having been cast away at Hastings, and much exposed to wet and hardship (but not want of food), his legs and ancles became much swollen, having for about a month previously found them slightly enlarged. He was free from pain, but ceased to perspire; and has had, since that occurrence, shortness of breath on exertion.

At the time of admission, he complains only of the swelling of his extremities: the chest is resonant; respiration natural; heart's action regular; pulse 86, regular, rather small, compressible; skin is rather harsh and dry; a scar exists on the left side of the thorax, the result, he says, of scurvy when at sea; and on his left leg he has an extensive nævus maternus, very slightly elevated above the surrounding surface. The face is sallow, not very pale; conjunctivæ bloodless; tongue whitish; saliva rather acid; bowels regular; urine light coloured, slightly coagulable by heat, more so by nitric acid; neutral, sp. gr. 1009. Ordered half a drachm of compound jalap powder immediately, and julepum ammon. acet. with half a drachm of wine of potassio-tartrate of antimony every six hours. On the 2d of Sept. he was ordered to take a quarter of a grain of potassio-tartrate of antimony, with four grains of extract of hyoscyamus every night; to continue his mixture, to repeat the powder occasionally, and to be bled to eight ounces. He slowly and gradually improved; the dyspnœa diminishing, and the nocturnal micturations becoming less frequent. The same treatment was continued throughout, and on the 5th of October he had slight œdema of the legs, his strength was improved, and he only felt the dyspnœa upon exertion. His tongue was clean and moist; his pulse 72, regular and rather feeble; and his countenance less anæmial. The urine was abundant, being never less than 63, and on one occasion as much as 106 ounces in twenty-four hours; the sp. gr. was uniformly 1010. On the 5th of October, when he left the hospital, it amounted to 88 ounces in twenty-four hours, was slightly coagulable by nitric acid, and scarcely so by heat.

Guy's Hospital Reports, April, 1843, *p.* 246—269.

21.—TREATMENT OF PNEUMONIA IN CHILDREN....By CHARLES WEST. M.D.

[After a most able account of the morbid anatomy and symptoms of pneumonia in children, Dr. West proceeds to the *Treatment* as follows:]

I will now endeavor to sum up as briefly as possible what I think I have learned of the treatment of this disease by careful and unprejudiced observation. I do so, however, with great diffidence, for I feel that none but they who have grown grey in the practice of their profession, and who can preface their remarks by appealing to "lengthened meditation, and to the diligent and faithful observation of many years," are in a position to claim for their opinions on such a subject any consideration. I can only plead my excuse, in the words of Sydenham; if indeed there be not something of presumption in borrowing the expressions of that great man: "Cæterum quantacunque fuerint aliorum conamina, semper existimavi mihi vitalis auræ usum frustra datum fore, nisi et ipse in hoc stadio versatus, symbolum aliquod, utcunque exiguum, in commune Medicinæ ærarium contribuerem."

Depletion.—The first rank as a curative agent in the treatment of idiopathic pneumonia, I would unhesitatingly assign to depletion. It is true, indeed, that on this, as on some other points, my experience differs from that of French writers who have studied the disease at the children's hospital at Paris. One of these gentlemen has affirmed that depletion, whether general or local, invariably debilitates the organism, and accelerates the fatal event. True as this

assertion may be of pneumonia occurring under the peculiar circumstances which that institution presents, it cannot be extended to it as it is seen in this country. In no case of idiopathic pneumonia which came at an early stage under my notice, have I had occasion to regret the employment of depletion carried so far as sensibly to affect the system. In children of two years old and upwards I have usually resorted to venesection, but in younger subjects have contented myself with the application of leeches. From a child of two years old I have been accustomed to take ʒiv. of blood, and to direct the application of four or six leeches beneath the scapulæ if the symptoms should appear unrelieved after the lapse of a few hours. The effects produced by one bleeding in some of these cases have been most striking, the violent symptoms have sometimes yielded at once, and recovery has gone on uninterruptedly almost without the employment of any other remedy. Of the frequent repetition of bleeding in *these cases*, whether from the arm or by leeches, I have no experience, but my conviction is that children *generally* bear repeated bleedings ill, and I therefore do not practise them. That form of pneumonia which develops itself out of catarrh appears to be least under the control of depletion; no instance having come under my notice in which the attack was cut short by its employment, though here too, local bleeding at the outset is often beneficial.

Tartar-emetic.—The tartar-emetic is a remedy of great value in the treatment of pneumonia; but I can by no means subscribe to the unqualified recommendation of it by some French physicians in all forms and at all stages of the disease. I would rather say of it what Wolfgang Wedel says of opium, "Sacra vitæ anchora, circumspecte agentibus, Cymba Charontis in manu imperiti." The cases in which it has seemed to me to be of the greatest service, were those in which the pneumonia developed itself out of previous catarrhal symptoms, or in which it supervened on measles, or came on in the course of hooping-cough. In such cases, antimony given in doses of a quarter of a grain to a child of two years old, repeated every ten minutes, till free vomiting is produced, and afterwards continued every two or three hours for forty-eight or sixty hours, has often appeared to be of the most essential service, and the preservation of the patient's life has seemed in several instances to be due to its employment. In pneumonia, too, which has not been preceded by catarrhal symptoms; if after venesection the respiration still continues as hurried as before, and the condition of the patient has been apparently but little improved by that measure, tartar-emetic has seemed to be extremely useful. I have been accustomed to give it in large doses, as a quarter of a grain for a child two years old, and to repeat it every two hours for twenty-four hours, and have observed its use to be followed by a great diminution in the frequency of the respiration, and considerable relief to the distress of the patient, and believe that when given in these cases it paves the way for the advantageous employment of mercury. In no instance, however, in which pneumonia had been neglected, so that the period for depletion was past, and in which distinct bronchial respiration was audible, have I seen beneficial results from the employment of antimony in large doses, as recommended by many French practitioners. It is true that the heat of skin will subside and the respiration will diminish in frequency, thus inducing a treacherous appearance of improvement; but the strength of the patient is seriously impaired by it, the occurrence of a comatose condition, or of what the Germans have called the paralytic stage, will be hastened, and the fatal event accelerated, as I have learned by sad experience in cases where I gave this mode of treatment a full trial. It is not meant, however, that after the supervention of bronchial respiration, antimony ought never to be given, but only that under such circumstances it has appeared to me that it should not be employed except in small doses and in combination with other remedies.

Calomel.—A very high rank as a remedial agent in the treatment of idiopathic pneumonia must be given to calomel. I have been accustomed, after due depletion, to administer calomel in doses of two grains, combined with a quarter of a grain of tartar-emetic, and half a grain of Dover's powder, and to repeat it

every four hours, for children of four years of age; diminishing the antimony after the lapse of twenty-four hours, if distressing sickness were occasioned by it, but persevering in the use of calomel, provided the patient was not over-purged, until the disease began to yield, or the gums showed signs of the mercurial action. The latter occurrence has been by no means frequent, and in no instance have I met with dangerous mercurial affection of the mouth from the employment of calomel in these cases. It has always been my custom to suspend the use of calomel for twelve hours immediately on the first appearance of mercurial affection, and if after the lapse of that time, the signs of mercurialisation had not increased, to return to its use in smaller doses, and repeated at longer intervals, provided the symptoms of pneumonia were so urgent as to demand its continuance. I have oftener been harrassed by the purging which calomel induces, though this may be in a great degree controlled by combining it with Dover's powder. Besides the inconvenience and danger attending over-purging, calomel has seemed in some instances, especially in infants, to occasion a very harrassing nausea and vomiting, which have rendered its discontinuance necessary, lest the patient should suffer from the want of sufficient nutriment. In such cases I have had recourse to mercurial inunction, and under its employment recovery has taken place even where circumstances had seemed to warrant none but a most unfavorable prognosis. It is especially in cases of neglected pneumonia, where the time for depletion has long gone by, where the administration of antimony is evidently contra-indicated by the exhausted state of the patient, and where the existence of diarrhœa forbids the employment of calomel, that the full value of the remedial agent is seen. I have employed it in the proportion of ℥j, rubbed into the thighs or axillæ every four hours, in children of four years of age. I have never observed salivation induced by it, but have seen the symptoms gradually diminish in severity during its employment, and the solid lung become once more permeable to air.

Stimulants.—Usually when the employment of mercurial inunction is indicated, the time for all directly-depressing measures has long passed, and the best means of supporting the patient's strength become matter for serious consideration. No point in the treatment of the disease is more difficult than that of seizing the exact moment when the employment of stimulants becomes necessary, and no general rule for regulating their use can be laid down. It has, however, appeared to me to be seldom safe to withhold them when extensive bronchial respiration exists in a case on its first coming under the care of the practitioner, or when it has supervened in spite of active antiphlogistic treatment. If the patient, too, is beginning to be much purged; if the respiration is becoming more laboured and irregular, though diminished in frequency; and if the pulse is becoming more frequent, and above all smaller and smaller, it is high time to resort to their use. Wine is as indispensable in such cases in the pneumonia of children as in that of the adult, and it may be necessary to give it even to infants at the breast. Ammonia may also be advantageously administered at this stage of the disease, either in a mixture with the decoction of senega, or dissolved in milk, which conceals its disagreeable pungency better than any other vehicle. If diarrhœa does not exist, strong beef-tea or veal-broth is the best form in which nutriment can be given; but if the bowels are relaxed, arrow-root, or the *decoction blanche** of the French hospitals should be substituted for it.

Blisters.—Blisters would probably be employed about this time in the treatment of pneumonia in the adult, but I cannot recommend their application to children. One objection to them arises from the time which elapses before they rise sufficiently, during the greater part of which they inflict considerable pain on the little patient, and make him extremely restless. The sores they produce when they cause vesication, are sometimes very dangerous; they may even become gangrenous, and occasion the patient's death. Even if no such unfavorable results follow, they are nevertheless a source of constant annoyance

* This which is similar to the white decoction of Sydenham, is prepared by boiling half an ounce of hartshorn shavings, and the inside of a roll in three pints of water till reduced to a quart.

to the child, at first from their soreness, afterwards from the troublesome itching which is felt when they begin to get well. Some pain is unavoidably produced whenever the dressings are changed, and the frequent repetition of this painful process sometimes makes the child take a dislike to its attendants, who seem to it to be the cause of so much suffering. It becomes suspicious of every one and quite unmanageable, while nothing is of greater moment than that a sick child should retain its fondness for its attendants, during the whole period of its illness.

Mustard-poultices.—It is quite possible that some of these objections may be obviated among the children of the wealthy, by that care and those comforts which riches can always command, but I have been led, by the reasons above stated, to discontinue the employment of blisters in the treatment of pneumonia among the children of the poor. The same objections do not apply to the employment of mustard poultices, and in many instances they have seemed to be productive of great good. They produce a much more speedy effect than blisters, and may be applied with safety over a much larger surface, hence they are often of signal benefit in relieving sudden accessions of dyspnœa; while, from their not occasioning any breach of surface, they may be reapplied as often as the emergencies of any case require.

Of the subsidiary medicinal agents, such as ipecacuanha, and the class of expectorants, nothing need be said; but there are one or two points in the general management of the disease, not altogether unworthy of notice.

General Management.—It is desirable, in all cases of pneumonia at all severe, that infants should be taken from the breast, and that the mother's milk should for a time be given them from a spoon. This is of importance on two accounts —partly because the thirst they experience induces them to suck overmuch (hence it is well that barley-water or some other diluent be given to them frequently instead of the milk, in order that they may quench thirst without overloading their stomach); partly because the act of sucking is in itself mischievous, since, as must at once be perceived, it taxes the respiratory functions to the utmost. A second important point is never to allow the children to lie flat in bed or in the nurse's arms, but to place them in a semi-recumbent posture in the arms, or propped up in bed. By so doing respiration is facilitated, since the diaphragm is relieved from the pressure of the abdominal viscera, and that stasis of the fluids in the posterior parts of the lungs is prevented, which has been shown by French writers to be so prejudicial to infants or children laboring under pneumonia. The only other point to which I will allude is, that when pneumonia has reached an advanced stage, or has involved a considerable extent of the lungs, the children should be moved only with the greatest care and gentleness, lest convulsions should be brought on. Whatever may be the explanation of this occurrence, the danger is by no means an imaginary one, for I have seen instances in which children have been seized with convulsions immediately on being lifted somewhat hastily from bed and placed in a sitting posture; and on this account I have referred to what might seem to be a trivial matter. *British and Foreign Medical Review, April, 1843. p. 569.*

22.—TREATMENT OF GRAVEL, CALCULUS, AND GOUT.

By H. B. Jones, M.A., &c., &c.

[The following remarks are from an interesting review of Mr. Jones' work on the application of Liebig's theory to the prevention and cure of the above diseases: but we have already placed before the reader, in Dr. Bird's papers, so much of Liebig's and Dr. Prout's views on this subject, that we will here confine ourselves chiefly to the treatment of the *uric acid diathesis.*]

First, with respect to *exercise.* This should always be regulated by the amount of fatigue produced. Exercise producing perspiration is the most beneficial, and this the more so, the colder the air is; as a greater quantity of oxygen is absorbed thereby; we must beware, however, of depressing the vital powers, by which an excess of uric acid might be produced. Sleep should be indulged in only so far as may be necessary to repair the fatigue which exercise has produced. Hot rooms should be avoided. The use of nitrous oxide water has

been recommended as the best diluent. By the various preparations of iron we may increase the amount of red particles in the blood, and thus influence the quantity of oxygen which is absorbed—the sequi-oxide of iron has been deemed the best; and as, according to Liebig, it is in this state the iron exists in the red colouring matter of the blood, there may be some grounds for considering this the best preparation of iron. To facilitate its absorption it should be given newly precipitated from some soluble salt of iron, as from the sesquichloride or persulphate of iron, from which the hydrated peroxide of iron may be formed by adding carbonate of ammonia or soda.

Mr. Jones next considers the treatment by diminishing the non-nitrogenous principles in the blood. This treatment he founds on the principles contained in Liebig's Physiology. It has been shown, he says, that the substances which contain no nitrogen, by combining with the oxygen which has been inspired, hinder the action of the uric acid; and it is highly probable that no albumen undergoes metamorphosis until it has served the purposes of life. These are the first principles by which the practice should be governed; and hence by far the most beneficial diet is a moderate quantity of meat, with a much smaller quantity of bread. The kind and quantity of both must be regulated by experiments, and by consideration of the habit and exercise of the patient. The quantity of starch in flour, as compared with animal food, renders it unsuitable to live only on bread. Meat alone would be far more beneficial; but in most people the process of respiration almost requires some substance which contains no nitrogen, though it should be taken in small quantities only. If the quantity of bread be small, the quantity of animal food may be proportioned to the exercise and the state of the body; for thus the changes which are going on in the tissues will be repaired, and the oxygen, finding but little non-nitrogenous substance in the blood, will act more readily on the uric acid, changing it into urea and carbonic acid. Sugar and starch comprehend much the largest part of those substances in vegetables which can be absorbed; nitrogenous and oleagenous substances are present generally in small quantities, though the relative amount of these principles varies much in different species. Thus, potatoes and rice are among those in which most starch is found, and these are therefore most inadmissible, while in greens and peas, there is much more nitrogenous matter, which in peas is similar to cheese. Fruits usually contain large quantities of starch and sugar; on this account apples and pears are the most objectionable.

Among non-nitrogenous substances we must include fat. If the formula for this is taken, as C_{11} H_{10} O, then 31 equivalents of oxygen are required to convert this into carbonic acid and water, and by taking this substance as food, so much oxygen is prevented from acting on the uric acid. Neither should butter be taken in excess. Gelatine, which forms the principal constituent of soup and jellies, may be used as a partial substitute for meat; but as the albuminous tissues cannot be formed from it, it cannot be entirely substituted for it without the strength failing. With respect to drink, the oxygenated water is best, then water which has been distilled, as being the best solvent. This, however, cannot be had everywhere. Some recommend the water to be filtered. This process removes all the substances suspended, but not those dissolved in it. Boiling the water has also been recommended. We have already seen that the non-nitrogenous bodies in the blood may be diminished by aperients which act on the liver. These are most useful when the deposit is dark-coloured. Of such medicines, calomel, aloes, colchicum, and colocynth are beneficial, both in large and purgative doses, and also when given in such a way as to increase the secretion of the liver. Hence the efficacy of blue-pill as an alternative. Sudorifics are sometimes given with advantage. With respect to baths, their action may be considered on the nerves and on the blood, and on each the action is of two kinds; thus, on the nerves there may be a stimulant or a sedative action, and on the blood they are capable of removing substances from it and of enabling them to be absorbed into it. These modes of action depend on the state of the system, the temperature and the substances which are dissolved in the bath. In one point of view, the skin may be looked on as an expansion of the nerves of

sensation, and by acting on the nerves of sensation, the whole system may be influenced. The action of the bath on the nerves of sensation depends on its temperature, as well as on the state of the system; thus, in some states, a warm bath causes irritation, and in others it acts as a sedative, whilst the same is the case with cold applications.

The removal of substances from the blood depends also on the temperature of the bath and the state of the system, and for this the vapour bath is most efficacious. The absorption of substances by the skin, does not seem to depend on the temperature, but on the state of the system, and on the substances which are contained in the bath. A great part of the benefit derived at Teplitz by those subject to the gout, depends on the absorption of alkalies by the skin. As it cannot be expected that there will be the same amount of absorption when the system is saturated with moisture, as when a large quantity has been removed by the secretions during the night, it has been directed to take the baths early before food. Mr. Jones suggests two kinds of baths to be used in immediate succession. This is the vapour bath, to remove water and acid substances from the blood, and immediately after an alkaline water bath, by which alkaline water may be taken into the blood. The next point to be attended to, is to keep all the uric acid in the ultimate textures in solution. This may probably be effected by water and alkalies. When these, or their carbonates, are given, they should be taken and dissolved in water at least an hour before food, so as not to interfere with digestion; these medicines may relieve the complaint, but they can never cure it. When uric acid is deposited in crystals, which may be recognised by their insolubility by heat, when they are soluble in an alkali, alkalies are then required, and this medicine must be given in such quantities as to combine with all the uric acid formed, when the deposit will either disappear altogether, or be changed for the urate of ammonia. By carefully abstaining from all vegetable acids, a crystalline deposit of uric acid will scarcely occur.

Mr. Jones makes a remark, on the effect of salt in promoting the action of oxygen on the substances in the body, viz., that no animal can be fattened, if it is able to obtain much salt. When sailors are long fed on salt meat, which furnishes an abundant supply of alkali to the blood, while they are deprived of non-nitrogenous food, an excessive action of oxygen on the tissues of the body takes place, and when this is long continued, the scurvy appears, the salt hastening the rapid changes in the tissues. By diminishing the amount of alkali in the blood, and by giving non-nitrogenous food, the scurvy is cured or prevented, in consequence of such substances being acted on instead of the tissues of the body. This explains the benefit which arises from vegetable acids, from fresh vegetables, from sugar, wine, beer, wort, treacle, potatoes, &c., all which have been used with the best effects.

We now come to the interesting subject of *Gout*, which Mr. Jones holds to be the invariable result of the long continuance of the uric acid diathesis; according to Liebig's views, it is most probable, he says, that great weakness and inordinate muscular exertions, may increase the amount of metamorphosis in the tissues, and thus give rise to new substances, which must be oxidised in order to be removed, whilst excessive eating, sleeping, and want of exercise, constipation, vegetables, and little secretion by the skin, all produce the same effect—all lessen the amount of oxidation which is necessary to remove those substances which result from the metamorphosis of the tissues of the body. Physicians of all ages have insisted on several of these as the cause of gout, and have recommended the opposite of them, as temperance, early rising, moderate exercise, alkalies, and medicines which act on the liver and the skin, as the means of cure. In the language of Professor Liebig, they have declared that the want of oxygen is the cause of gout, and the promotion of its action the only means of effecting a cure, or of hindering a return of the complaint. Numerous authorities are adduced by our author in support of these causes of gout. In Austria, a mode of treatment has been revived, which, in those who can endure it, is most beneficial in the diseases which may be included in the uric acid diathesis, as indigestion, bilious complaints, gout, rheumatism, and skin diseases. At Graffenburg, in Austrian Silesia, under Pressnitz, the action of oxygen is pro-

moted to a most beneficial extent in these diseases, but to a no less disastrous one in the opposite class of diseases which arise from too much action of oxygen on the body, as in phthisis and scorbutic cachexia. Until Professor Liebig again directed attention to the action of oxygen on the human body, the causes of success and failure were unknown. At Graffenburg the greatest possible action of the skin is produced by baths. Large quantities of water are required to be taken. Early rising, and a plain, though not strict diet, is ordered. By these means, the action of oxygen on the body is promoted to a very great degree, "and death ensues (says Liebig) if ever the system is no longer able to furnish matter to resist the action of oxygen; the condition of health consisting of an equilibrium among all the causes of waste and supply: "and death being that condition in which all resistance on the part of the vital force to the action of oxygen entirely ceases."

Much of the treatment at Leamington, and the benefit derived from it, may be accounted for in the same way. At first, abstinence and drastic medicines are ordered, and the strictest diet is enjoined, which consists chiefly of meat, with a small quantity of bread, no fermented liquids, and much exercise. One hour's walk, at the least, before each meal. Large doses of iron are afterwards given. The waters, containing a considerable quantity of common salt, chloride of calcium, Glauber's salt and traces of iron, would assist the more energetic measures of Dr. Jephson, in promoting the action of oxygen in the body, as is soon indicated by the altered complexion.

Professor Liebig's views of gout are, that it is an inflammation in parts in which the usual changes which the oxygen effects, are unable to take place, in consequence of an excess of the non-nitrogenous principles in the body; while rheumatism or "the universal gout" seems to arise from the changes being checked by the action of cold on the skin. There are, however, some points respecting gout and rheumatism which still require to be determined before the whole of the phenomena of these diseases can be perfectly explained. One is the question whether the uric acid is, in the state of health, produced in the ultimate textures, and there undergoes its changes into urea, in which it is carried to the kidneys by the circulating blood (and the existence of urea in the blood in Bright's disease and in cholera is in favour of this view), or whether in the ultimate textures some other substance is first formed from the tissues, which, when it arrives at the kidneys, is there changed into uric acid, and afterwards into urea, in the way that has been pointed out. If this last be the case, the substance out of which the uric acid is formed must exist in the blood: and it is, our author observes, among those substances which are comprehended under the term, indefinite extractive substances of the blood, that search must be made for it. The probability of some such substance existing is increased by the most accurate examination having as yet failed to detect uric acid or urea in healthy blood.

"Certainly," says the author, "the one or other of these states must exist; either there is an excess of that substance which is capable of producing uric acid when it comes to the kidneys, which is passed during an attack of gout from the systemic capillaries to those of the kidney, and there gives rise to the excess of uric acid which appears in the urine, or, what is perhaps more probable, urate of ammonia itself (formed from the metamorphosis of the tissues) exists in the blood in larger quantities than usual. One or other must exist in the blood, during the fit of the gout, in larger quantities than in the state of health, and from one or other the excess of uric acid appears in the urine, and most probably it is the presence of this substance in the circulation, and the interruption by any causes, as cold and weakness of circulation, of the changes which it is undergoing in the capillaries and in the kidneys, that produces the phenomena of retrocedent and irregular gout. The acid state of the secretions of the skin, stomach, and urine in this disease, has led some physicians to consider acidity as the cause of this disease; such a state of acidity may also arise from a want of action of oxygen on the non-nitrogenous principles, that is, from the oxygen not being present in sufficient quantities. In health, when sufficient oxygen is absorbed, the acids formed from the non-nitrogenous food

are converted into carbonic acid and water by combining with oxygen; but in gout the deficiency of oxygen renders those changes impossible, and the acids formed, being but very imperfectly or not at all acted on by oxygen, remain in the body undecomposed till they are thrown out in every possible way. By soda, potash, or magnesia taken as medicine, these acids are neutralised, as well as by the carbonates of those alkalies which are decomposed, lactates or acetates being formed. Hence the benefit from alkalies in gouty complaints, but it is only palliative. Such treatment, however, will not prevent the formation of lactic acid; to effect which, all the substances from which this acid most readily arises, especially starch and sugar, should be left off.

"By this action of oxygen, then, an explanation is afforded of the effects of weakness, excessive sleeping, excessive eating, of a want of exercise, as well as of inordinate muscular exertion, of vegetable acids, and of alcohol in the production of gout. For the weakness and inordinate exercise tend to the excessive production of uric acid, disposing to and causing rapid changes in the tissues. Sleep lessens the quantity of oxygen which can be absorbed, by lessening the number and the strength of the respiration, and in consequence the uric acid formed is not changed. By excessive eating the blood becomes loaded, and contains an excess of those principles which can only be carried off by the action of the oxygen. By acids the uric acid is rendered less soluble, and therefore less easily acted on. Wines are injurious from the alcohol they contain, and acid wines are doubly injurious by both acid and alcohol adding to the excess of non-nitrogenous substances, for which the oxygen has a greater affinity than it has for the nitrogenous substances."

The juvantia give additional strength to this view. We see abstinence alone will cure by giving no fresh fuel, the supply of oxygen remains undiminished and gradually consumes those non-nitrogenous (carbonaceous) substances which had been previously so heaped up as to threaten to put an end to all action. Exertion increases the respiration, and thus causes more oxygen to be absorbed, and thus more action takes place. Purgatives remove the bile, which contains an excess of carbonaceous matter, on which the oxygen would otherwise act to the hindrance of its action on the nitrogenous substances; while alkalies and water hold the uric acid dissolved, and promote the changes in the tissues. By these views the relation of gout to acidity, to uric acid, and oxalate of lime calculi, is most plain. They all arise from the same cause, the want of action of oxygen. The indications of treatment, as suggested by the theoretical views of Liebig, are thus summed up in the words of Sohonlein: scil.

1st. To neutralize any diseased products which may be formed. 2nd. In proportion as they are formed, to cause them to be removed, in order to prevent any accumulation which may cause a paroxysm. 3rd. To render the formation of any fresh diseased products impossible.

Medico-Chirurgical Review, April 1843, *p.* 348.

23.—ON THE INHALATION OF AMMONIA GAS.

By Alfred Smee, Esq., F.R.S., Surgeon to the Bank of England.

[The inhalation of gases is, perhaps, too much neglected in particular diseases. At present we know but little respecting the properties of gases upon the animal economy, but when we remember the rapidly deleterious effects of the vapour of hydro-cyanic acid, of bromine, of sulphuretted hydrogen, we may suppose that there may be other gases which might act medicinally and beneficially. Mr. Smee brings forward the following interesting paper respecting the use of ammonia gas for stimulating the mucous membrane of the mouth, fauces, trachea, and bronchi.]

The inhalation of so stimulating a gas as ammonia is well known to be, at first sight, perfectly startling to those who have never either tried it on their own persons or never seen it applied by others, but it is really, in many cases, with proper management, a simple and one of the most delightful remedies that can be employed. If a bottle, containing a solution of the gas, as the common liquor ammonia or hartshorn, be opened, part of the gas escapes. If this comes in contact with the conjunctiva it stimulates it and causes much fluid to be

poured from its secreting surface, and its influence on the delicate lining membrane of the nasal cavities is not less powerful. In fact, this vapour appears immediately to cause a secretion of fluid from the parts with which it comes in contact.

When this gas is absorbed by the mouth in far larger quantities, it appears to cause in a similar manner an increase of the watery part of the secretion, usually passing from all the several parts with which it there can come in contact. *A priori* it might be expected the glottis would resist the intrusion of the gas, but this is by no means found to be the case when in a diluted state, as it apparently readily passes into the innermost recesses of the lungs, and instead of producing disagreeable effects, causes sensations which are extremely grateful and agreeable. The gaseous nature of ammonia allows it to come in contact with every chink of the air-passages, and even the upper and back parts of the pharynx, which from its peculiar construction resists the application of other topical remedies.

The immediate effect of the inhalation of this gas is to cause the fauces and pharynx, before dry, and perhaps covered with inspissated adherent mucus, to force out a watery fluid to lubricate and relieve the membrane; the phlegm will then separate and come away, and a more or less instantaneous relief is frequently felt. We all know the expectorant qualities of ammonia, and the value of its sesquicarbonate, whenever the system will bear its administration, as a general remedy, but its qualities, when used as a local agent, seem to be more active in this respect than when used as a general remedy. The most convenient mode of administering the ammoniacal gas is to use the vapour that spontaneously exhales from solutions of ammonia. Of these it is preferable not to employ a solution stronger than the liquor ammoniæ of the shops, or weaker than the same diluted to twenty or thirty times its quantity of water. For general purposes, perhaps, the usual liquor may be employed diluted with ten times its bulk of water, but the strength of the ammonia must be regulated by the medical practitioner according to the nature of the case, and the susceptibility of the patient, and even according to the strength of the original liquor.

The liquor ammoniæ, diluted according to the discretion of the medical attendant, may be placed in a common phial, and as much should be inserted as to occupy about the two lower inches of the bottle. The patient has only to apply his lips to the mouth of this homely contrivance, and draw in his breath, when he will inhale a certain quantity of the ammonia. Before the application of the mouth to the bottle, the patient should take care that none of the liquid adheres to the aperture, which on coming in contact with his lips would cause them to smart, and being no part of the cure, the pain would be perfectly useless. The number of inspirations to be taken at one time may be determined by the strength of the water and the effect of the remedy. Two, three, or four inspirations, will in general be sufficient at one time, but this must be repeated three or four times during the day. A more convenient apparatus than the simple one last described may be readily made and advantageously employed. A bottle may be selected, and a cork procured, bored with two holes. Into one a piece of bent glass tube may be inserted, having the one end dilated for the convenience of applying the lips. Into the second hole of the cork a tube should be thrust, within half an inch of the liquid, so that when the patient inhales, the ammonia passing from the liquid tube is taken into the chest, and this is perhaps to be preferred to drawing the breath itself through the solution of ammonia.

Though the last apparatus will answer the purpose more or less efficiently, I have yet to describe a far more elegant device to be employed as an inhaling apparatus. A two-necked bottle is procured; into one mouth a tube is adapted to serve as a mouth-piece. This tube is ground to fit the neck, and when not used is removed for the insertion of a common stopper, that the strength of the ammonia may be preserved. Into the neck another tube is ground, into the inside of which another stopper is fixed. When the inhaler is in operation, this stopper is withdrawn to allow the air to pass into the bottle, but when not wanted it serves to close the apparatus. This inhaler is more admirably adapted for

the desired purpose, and perhaps for gaseous inhalations cannot well be surpassed. The diluted liquor ammoniæ at the bottom of the vessel extending to within half an inch of the latter tube.

The vapour inhaled from the liquor ammoniæ does not seem to pass away immediately, but may be distinctly tasted for some minutes afterwards, even subsequently to the commencement of its beneficial action. The value of the local application of this gas is seen in cases of what is called dryness of the throat, which appears to arise from a deficiency of the secretion of the liquid which normally lubricates the mucous membrane. The mucus from that cause becomes dry, and causes much uneasiness to the individual. The common and popular remedy of applying hartshorn and oil to the throat for various affections is probably in great part owing to the inhalation of the vapour of the ammonia, which necessarily at the same time occurs, as it is impossible that this external application can be effected without a large quantity being imbibed at the same time.

Ammonia gas is also beneficial in chronic hoarseness, especially in that which is often left as a sequel of influenza. This gas affords great relief and comfort to the relaxed, swollen, and apparently semi-œdematous state of the mucous membrane, which supervenes from remaining in crowded, overheated, and ill-ventilated rooms, where every person not only inhales his own breath over and over again, but is under the infliction of breathing his neighbour's also. In cases of incipient cynanche tonsillaris, it appears to be of much value if used at the very commencement of the attack; the slight impediment to deglutition, which is generally the first premonitory sign, is sometimes removed by one or two inhalations. There are occasionally cases of syphilitic ulceration of the throat witnessed, where the patient suffers from such debility that the practitioner is afraid of applying any remedy capable of depressing the system, where the inhalation of the gas might probably be of great service, but as such a case has not occurred in my own practice for a long period, I am unable to speak practically upon the matter.

In old standing cases of asthma, especially in those in which the medical man considers that the internal use of the sesquicarbonate of ammonia is indispensable, in which the extremities are cold, the pulse feeble, and the general vital powers depressed, the local application of ammonia is particularly grateful, the patients feeling, as they describe it, a glow after its exhibition, and the warmth first imparted to the lungs extending by degrees over their whole system.

In cases where the patient feels a peculiar sense of contraction upon passing into cold atmospheres, as though the lungs resisted the intrusion of so unpleasant an agent, the inhalation of ammonia seems to quiet the spasmodic action, relieve the breathing, and give comfort to the whole chest, which is delightful to the feelings of the sufferer. Perhaps it is almost needless to notice that this remedy would be deleterious when either special organs or the general system are attacked with acute inflammation, for there is but little doubt that the ammoniacal vapour is a decided stimulus, first locally in those parts with which it comes in contact, and, secondly, on the system in general, by its absorption into the circulation. As a stimulating agent it must obey the laws of stimulants generally. It should not, therefore, be employed when the part with which it comes in contact is inflamed, nor when a dry parched tongue, a full pulse, and a dry skin, denote a feverish system. In all chronic cases, or even occasionally in acute cases, with a feeble circulation; in fact, whenever the system is depressed, and stimulants are advisable, the inhalation of ammonia may be used with the greatest advantage and comfort to the patient.

For the last two or three years I have occasionally been in the habit of inhaling ammonia as a luxury during the prevalence of the easterly winds, which by their action so dreadfully dry up and parch all living creatures. The application of ammoniacal vapour, in the manner which has been already pointed out, is rather an agent of comfort, removing slight ailments and troublesome affections, than a remedy which is capable of saving life from violent diseases, except indeed when used as an antidote to certain poisons. Still, however, there is no complaint, however trifling, no system, however unimportant (if attended with discomfort and inconvenience to mankind), that it is not the duty of the medical man to endeavour to relieve or remove. *Medical Gazette, April 7, 1843, p. 59.*

24.—ON HÆMOSTASIS....By THOMAS H. BUCKLER, M.D., Baltimore.

[The term hæmostasis merely serves to express the act of arresting the blood in its course. The way this is to be performed, and the states of the system to which this peculiar method is applicable, is the subject of an interesting paper by Dr. Buckler, of Baltimore, in the *Maryland Medical and Surgical Journal*. We cannot say that we altogether agree with Dr. Buckler in his views; although they may be very ingenious, and appear to be supported by the several cases which he advances in confirmation. Dr. Buckler received his first hint respecting this new mode of arresting the flow of blood, from the following circumstance:]

About five years since, an uneducated man, of leucophlegmatic habit, presenting all the physical appearances of an inhabitant of a malarious district, applied to me for the relief of intermitting fever, under which he had laboured for a long time. He said that he had been using a great number of remedies, most of which were suggested by different quacks, in the neighborhood from which he came; and the only thing which had done him any good was to tie eel-skins tightly about the upper part of each arm, a short time before the expected return of his chill. At first, I was disposed to think that the eel-skins could only have arrested his chill, through some influence over his imagination; but the question at once presented was, why have not other remedies exerted the same influence; for most of these were necromantic in character? There may be more meaning in charms than we are at first disposed to believe. On examining the arms of this man, the eel-skins being at the time around them, I found the veins, which were unusually abundant, remarkably swollen from the complete obstruction of the venous circulation. It then occurred to me, that the prevention of his chill might possibly be owing to the accumulation of blood in the arms, and its consequent withdrawal from the common current of the circulation, by which it was prevented from accumulating about the spleen and portal vessels.

After numerous experiments, Dr. Buckler states his conviction that this method is applicable to the following conditions:—1. To prevent hæmorrhage resulting from either rhexis, diapedesis, or from wounds inflicted on blood-vessels. 2. To relieve inflammatory engorgement in parenchymatous organs, or inflammations of membranous tissues. 3. To remove simple vascular congestion, and restore the balance of the circulation.

Physiological Effects.—If we tie a bandage about a limb sufficiently tight to arrest completely the venous circulation, and at the same time allow the arteries to pulsate, we shall note the following phenomena:—The veins become swollen, and look as though they would burst; all the blood they contain is withdrawn from the general circulation, and is as effectually cut off from it, for a time, as if it had been drawn in a basin. This then is the depletory effect of the operation. Next, we notice that the patient complains of stinging or tingling in the limb, and of pain shooting along the course of the nerves; which is the irritant effect of arresting the blood. Lastly, we observe, when the bandages remain on a sufficient length of time, that the skin becomes of a livid red, owing to excessive injection of the capillaries; in other words, the whole limb appears as if it had been placed under the exhausted receiver of an air-pump: and this last, we shall find to be the vascular revulsive effect of hæmostasis. If the arrestation of the venous circulation be practised on all the extremities at once, we observe other effects. The skin becomes relaxed, and the pulsation of the heart and arteries weakened. If the vessels of the whole body are in a state of repletion or fulness at the time, we shall perhaps notice only the above phenomena. But if, on the contrary, the heart and arteries are deprived of a portion of their normal quantity of blood, owing either to pre-existing anæmia, or to the loss of the vital fluid from bleeding, so that the vessels shall be partially empty, we then notice certain other phenomena to result from arresting the venous circulation of the extremities. 1. The exhalants of the skin pour out the most abundant perspiration. 2. The individual complains of feeling light about the head, of weakness, and of sick stomach. 3. If we feel the carotids, we find them scarcely pulsating; and in a word, all the phenomena of syncope are found to take place.

The blood of the vena cava ascendens returns to the heart, with the force it derives from the vessels which supply it, whether we consider that force as residing in the capillary vessels, or as dependent upon a vis a tergo communicated by the contraction of the heart and arteries. If, then, we arrest the return-blood in the upper third of one thigh, we cut off at once half of that force by which the blood is sent through the vena cava back to the heart; and we do more than this, for we arrest at the same time one half of the return-blood itself from the extremities. If we apply a tourniquet to the thigh of the opposite side, we take away nearly the whole supply of blood sent to the lower portion of the vena cava, and deprive the venous circulation of a large amount of that force which returns the blood to the right side of the heart. If, at the same time, the veins of the upper extremities be compressed, the whole of that circulation which we denominate peripheral is arrested.

The effects of hæmostasis are always in a direct ratio to the quantity of blood in the circulation.—If we fill an eel-skin with water, and then try, by tying it, to alter the quantity of fluid which occupies its different portions, we shall be foiled. But if a part of the water be emptied out, we shall be able to put ties about the skin in such a way that any portion will be nearly or quite empty. Now, precisely the same thing happens in applying hæmostasis. In that degree of fulness of the vessels which belongs to a healthy man, after arresting the venous circulation of the extremities, we have noticed very partial effects. The reason of this is at once apparent; the vessels of the extremities were already full even to distension, and the quantity of blood which could be withdrawn from the central and transferred to the peripheral circulation was of course limited. But when we made trials, in the case of those who were already enemic, or from whom a certain quantity of blood had been previously taken, the effects of hæmostasis before described were very decided. The reason of the difference in the two cases is clear, and the cause of the result in the latter instances perfectly apparent. The vessels of the extremities had been already partially emptied by the previous depletion, and were now capable of holding a quantity of blood sufficient to fill them to the healthy standard, independently of that which they would still hold from over-distension, and the quantity of blood withdrawn from the central circulation, and consequently cut off from the brain, was proportionably great.

Various estimates have been made, by different physiologists, as to the quantity of blood contained in the human body; some have made the quantity 10 pounds, others 32; according to Wrisburg a healthy woman lost 26 pounds by flooding, and 24 pounds were collected after the beheading of a full grown woman. In different individuals, the quantity of blood varies as much as that of the solids. It would be altogether useless, if it were possible, to fix any definite standard of quantity, and we fear that they who attempt it, may fare like those who sought to discover perpetual motion. Let us suppose the quantity of blood in a healthy individual to be thirty pounds, and that one-third of it, ten pounds, belongs to his extremities, and suppose that hæmostasis is capable, by over-distending the vessels, of transferring four pounds (we must make it a calculation of probabilities, it being as difficult to ascertain the exact proportion belonging to different portions of the body, as it would be to make a standard of quantity in the entire body for the whole human family), from the central to the peripheral circulation, the heart and vessels of the trunk will then contain sixteen pounds, the four pounds which they have lost, being as effectually removed from them for a time, as if it had been drawn from the body. But the depletion which the central circulation has here undergone is partial in its effects, and the withdrawal of blood from the brain is insufficient to produce syncope. If now we open a vein in the arm, the blood drawn will be taken from the 16 pounds in the central circulation, and the flow of it would diminish the quantity of blood supplied to the brain much more rapidly than if it had been taken from 30 pounds, the quantity common to the whole circulation. Two pounds drawn by bleeding from 16, the quantity in the central circulation, will leave only 14 for the trunk: whereas, had 2 pounds been taken from 30, the whole amount of blood, and hæmostasis had not been applied, it would leave 28, which would be, according to our original proposition,

18 and two-thirds of a pound, instead of 14 for the trunk, and 9 and one-third of a pound, instead of 14, according to hæmostasis, for the extremities. If we draw the blood first, and then apply hæmostasis, the result will of course be the same. Accordingly, when we apply hæmostasis in a full state of the circulation, only partial effects will be noted; but if on the contrary, it be adopted when the vessels are comparatively empty, we shall have the most perfect syncope induced, a condition which is now under our control, and which we can protract to any desirable extent, and this too, without a loss of half the blood that would be required to make an individual faint under ordinary circumstances.

The difficulty of producing syncope, under some circumstances, is doubtless owing to the tardiness with which the blood returns from the brain, because of the obstruction it meets with in the heart and lungs. There is consequently a pressure of the return-blood upwards, which prevents the sinuses and vessels of the brain from being emptied as rapidly as they would be under other circumstances. The correctness of this view may be proved by compressing the veins of the neck, when an individual is sitting up and about to faint from the loss of blood. It is only necessary to apply moderate pressure with the hands, on each side of the neck, so as to arrest the return-blood from the head, and at the same time to allow the pulsation from the carotids to go on. Pressure thus applied, when a patient is sitting up, will exert nearly the same influence in preventing syncope, as the removal of the gravity of blood by placing the individual in a recumbent posture.

In inflammation of mucous tissues, and of parenchymatous organs, there is generally little pain, with, for the most part, a weak and feeble circulation. When, on the contrary, inflammation takes place in serous, fibrous, or cartilaginous tissues, pain is severe, and the circulation bounding and active. In parenchymatous organs and mucous membranes, there is abundant loose cellular tissue, into, and through which, transfusion readily takes place, and also large vessels lying adjacent, in which blood is collected and thus withdrawn from the general circulation. Could we apply the hydrostatic test to a lung during the stage of primary engorgement in commencing pneumonia, we should probably find it containing several ounces of blood more than a healthy lung of the same size. May not this account for the preternaturally depressed pulse which we sometimes find in commencing pneumonia?

The fibrous, cartilagious, and serous tissues are dense and compact, allowing little or no room for transfusion to go on; and the veins in the neighborhood of these structures are comparatively small and less abundant, so that blood cannot accumulate in them, and no fluid is consequently withdrawn from the torrent of the circulation. Hence, a frank, active, and bold circulation is at once established in inflammation of these, and all other similar tissues. For example, the pleura costalis and its adjacent compact cellular tissue, are supplied with blood by the intercostal arteries, and the veins which carry back the fluid are very small. Accordingly, when pleurisy takes place, the circulation is (for the reasons before stated) bounding and active. The vessels in the substance of the lungs are very large, abundant, and distributed in exceedingly loose cellular tissues, and for this reason the pulse in pneumonia is weak and feeble. In acute peritonitis the pulse is corded and active, and the largest quantity of blood may be taken without producing syncope, even when the patient is sitting up in bed. In mucous inflammation of the intestines, there is, on the contrary, a weak and feeble pulse, and it is often difficult to take a sufficient quantity of blood from the individual, who may be in a perfectly recumbent posture at the time, without producing syncope.

Writers on the diseases of pregnancy very properly attribute the swelling of the veins of the extremities and consequent œdema, which occur in some women during the last months of gestation, to the pressure of the womb on the iliac veins. But here they stop, and have not considered that this accumulation of blood in the extremeties, and its consequent withdrawal from the circulation of the trunk, may give rise to other symptoms, which are so common during the last month of pregnancy. Mrs. C., a lady of delicate habit and feeble constitution, complained very much during the last two months of gestation, of the

following symptoms: swelling and œdema of the lower extremities, which came on a short time after rising in the morning, and increased as the day advanced; throbbing in the temples, a feeling of fulness about the head, drumming in the ears—*tinnitus aurium*—palpitation of heart, and an occasional feeling of syncope. These symptoms were invariably relieved by lying down. Are we not correct in attributing all the various feelings of which she complained chiefly to the accumulation of blood in the lower extremities, in consequence of which, the trunk was deprived of its normal quantity of circulating fluid, thereby giving rise to the symptoms of anemia? The feelings which this lady experienced are generally said to be nervous; we think it quite as philosophical to attribute them in most cases to the cause which is here assigned.

Mr. R., a gentleman of delicate constitution, tall in stature, pale and anemic in his appearance, had suffered for a long time with varicose enlargement of the veins of his lower extremities. His occupation was that of a clerk, requiring him to stand a great part of each day. The distension of the varices increasing daily, and his strength gradually declining, he was at last taken with exhaustion and syncope; the latter was soon relieved by lying for a short time in a recumbent posture. His symptoms at last grew so distressing that he applied to us for relief. Was not the syncope in this case, owing directly to the abnormal transfer of blood from the central to the peripheral circulation, in consequence of which, the due supply of blood to the brain was cut off, and its innervation interrupted?

In every ampution in which we have seen the tourniquet used, much more blood was invariably lost, than in those instances in which simple compression of the artery by means of the thumb or a key, was resorted to. The difference in the quantity of blood lost, in the two cases, is so great, that the best surgeons are now in the habit of adopting in their own practice, and of recommending to others, compression of the main artery of the limb to be amputated, in place of the old method of using the tourniquet. The cause of the difference in the two methods is obvious; for, when a tourniquet is applied, the veins of the limb are first compressed and then the arteries; the interval of time between the interruption of the venous and arterial circulation, being always sufficient for the limb to become charged with blood. This must happen to a greater or less extent, however dexterous the surgeon may be in applying the tourniquets in ordinary use. If we had an instrument that would compress the arteries and veins at one moment of time, the difficulty would be in a great measure overcome. I beg leave to propose another remedy—which is to apply tourniquets to every extremity except the one to be amputated, and then to compress the artery above the point at which the limb is to be severed, the great artery of which should be pressed upon with the thumb, as in ordinary cases. By the adoption of this method, the force required for compression will be trifling; for the force of the heart's action will be so much diminished by the previous application of hæmostasis, that the difficulty of arresting the flow of blood in the artery at the point desired, will be rendered comparatively easy.

When any operation is to be performed on any part of the trunk, from which we have to dread the loss of blood, hæmostasis should be applied to all the extremities before the knife is used. If this precaution is adopted, syncope will take place much sooner than it would do without it; but the surgeon will have the assurance that his patient faints, not from the quantity of blood lost, but mainly on account of its withdrawal to the extremities, where he can permit it to stay until the operation is over and the bleeding vessels secured. It seems to me that this plan must render many operations easy, which without it would be involved in difficulty. Loss of blood in the different steps of operations is often the great source of apprehension to the patient, and of perplexity and embarrassment to the surgeon; and, I believe, that the careful adoption of hæmostasis is calculated to disarm surgery of half the terrors which arise from hæmorrhage, during and after the performance of operations.

[Dr. Buckler brings forward numerous cases to prove the value of these views in the treatment of disease. We will give a few of those which more particularly elucidate the subject.]

Case I.—S. Myers, aged 35, a negro man of middle stature, in the employ of Mr. B., having committed a debauch the night previous, and having been exposed to a storm on his way home, was taken on the following morning with acute conjunctivitis of the left eye. His pulse was 100 in the minute; dryness but no heat of skin, pain in the left temple, left eye closed, anorexia; the conjunctiva excessively injected and very red, many of the larger vessels projecting above the level of the membrane, very little chemosis, and slight photophobia. I determined in this case to try what effect hæmostasis would have in blanching the eye, and, at the same time, to see how far it would control the flow of blood, after making a large orifice in one of the veins of the arm. The venous circulation was then arrested in all the extremities, by means of ligatures firmly applied as closely to the trunk as possible. On the lower extremities handkerchiefs were used as field-tourniquets; this was necessary on account of the great muscular development of the thighs, which would have rendered a simple tying of the handkerchiefs entirely inefficient. These ties were applied so firmly as to arrest, at first, the circulation of the arteries, but on directing him to flex rapidly the arms and legs, the arteria pulsations were felt at the wrists and ankles, and the veins were soon gorged to their fullest with blood. He complained at first of feeling sick at his stomach and light headed, but did not faint. The conjunctiva became considerably, but not entirely blanched.

The next thing was to ascertain how far hæmostasis would control the loss of blood. A free orifice was therefore made in the largest vein of one arm, with a quick dash of a sharp thumb-lancet. The veins were emptied by a single gush of blood, to the extent of an ounce and a half; the blood then flowed slowly for 30 seconds, the pulse grew extremely weak, and the man fainted. The quantity of blood lost was between three and four ounces. The conjunctiva was still more blanched, but not as pale as the other eye. The bandages were removed, and the man being laid flat on his back soon recovered. The arm was now tied up again and blood drawn, I should think to twenty ounces, without producing syncope. I then twisted the handkerchiefs, by means of small sticks run through the ends of them, until the venous circulation of each thigh was again arrested, and so soon as this was accomplished, the patient fainted a second time. This man had been repeatedly bled, so that the syncope which first occurred, could not be accounted for by any dread of the operation, and the quantity of blood lost was wholly insufficient to account for his fainting; more especially when after the bandages were removed, he lost nearly 20 ounces of blood, without any appearance of syncope; so far from it, this state did not come on a second time until the bandages were again tightened. It is fair to conclude, then, that syncope was produced in both instances, not from the direct loss of blood, but mainly by the accumulation of it in the extremities; the central circulation having been in manner depleted and the due supply of fluid to the brain cut off. The conjunctiva recovered in a few days under the use of a mild collyrium.

Case II.—A. Murray, a stout negro man, aged 28, about five feet seven inches tall, and who appeared to be in perfect health at the time, came to my office and requested to be bled. This seemed to afford a fair opportunity to test how far hæmostasis would control the loss of blood. His pulse having been slightly accelerated by walking, he was permitted to sit quietly for a short time, before the trial commenced. After resting, his pulse was 75, soft and open, and the temperature of the skin was natural. Assisted by a friend I tied all his extremities as closely to the body as I could, so as effectually to control the venous circulation. So soon as the veins, which were of medium development, became distended, he complained of tingling in his arms and legs, the skin grew gradually moist, and in ten minutes after the application of the ties the most profuse diaphoresis came on. The pulse, which had grown gradually more frequent and soft, was now 85 beats in the minute, and far more compressible than it was before the application of the ties; he complained of feeling giddy and light-headed. Symptoms twenty minutes after the application of the ties: pulse the same, skin bathed in the most profuse sweats, respiration less fre-

quent and occasionally an inspiration more prolonged than the rest. A large orifice was made in the median basilic vein of the left arm. The superficial veins which had been very much gorged were emptied in an instant. The blood then flowed freely for a minute to the extent of three ounces, when it stopped, owing to the pressure of the bandage above, on the now more enfeebled circulation in the brachial artery. The bandage was slightly loosened, so as to allow the circulation of the artery to go on again, when about two ounces more were lost, and the man fainted. The bands about the limbs were now loosened and the patient placed in a perfectly recumbent posture. He rallied completely in the course of 20 minutes, during which time it became necessary to close the orifice in the vein. I then took between 10 and 12 ounces of blood from the arm, the patient sitting up in a chair at the time, without producing syncope. After closing the orifice in the arm, the bands on all the extremities were tightened; the most complete syncope was induced. The bandages were now taken off and in a short time he recovered his strength.

Case III.—Edward Blake, mulatto laborer, æt. 24, a man of good muscular development, and over six feet in height, had a chill while at work, and next day sent for me to see him. He complained of headache, slight cough and pain in the back, a slight catarrh, white tongue, some heat of skin, pulse 90 in a minute, full and hard. Directed him to sit up in bed, and then tied handkerchiefs about the upper part of each arm and leg. The veins of his extremities, which were unusually large and very abundant, became excessively distended with blood. In three minutes after the last tie was fastened, he gave a slight hiccough, made an effort to vomit, and fell back in a complete state of syncope, in which condition he remained for fifteen minutes, being perfectly unconscious the whole time; I then loosened all the knots. The first evidence of recovery was a slight convulsion, which seemed to affect his whole muscular system, as if an electric shock had been passed from his head to his feet. This I attribute to the first jet of blood sent to the capillary vessels of the brain, which had been emptied during the state of syncope. He next took a deep sigh, then opened his eyes as if from sleep, and in a short time he recovered from the faintness entirely. He was then directed to sit up in bed for the purpose of being bled. He said: "I'd rather be bled twenty times than have *them* things put on agin. They makes me feel *wus* than I likes to feel." I tied up the right arm and took from him fifteen ounces of blood, which produced slight faintness, causing him to lie down. I next arrested the flow of blood by putting a bandage upon his arm, and when the sickness had entirely passed off, tightened the handkerchiefs about his thighs. Two minutes after this was done he fainted again, being in a perfectly recumbent posture at the time. The syncope was complete—the man seeming to be in a perfect state of suspended animation for the space of ten minutes, when the ties were loosened. The first evidence of animation came on in a few minutes, with the same convulsive twitch in all the muscles, as was before observed. He then took a few deep inspirations, and asked for some water; the instinct of the stomach being aroused to supply the want of fluid occasioned by the previous loss of blood.

Hæmostasis in Engorgement of Parenchymatous Organs.—Case VIII.—C. P., a negro chambermaid aged 23, of robust frame and tall stature, whose parents are living and in good health; never remembers to have been sick until now. Having been the night previous to her attack in a hot, close, and crowded room, she came home without sufficient clothing, through a damp and cold atmosphere. The next morning she was taken with a chill, which she says was an icy coldness over the whole body, without shivering. It lasted most of the day and was succeeded at night by aching and soreness in all her limbs, violent pain in the back and severe headache.

24th. The day after her chill, I saw her for the first time: pulse 80, soft and natural, feet and hands cool, more heat about the head and neck than natural, skin dry, tongue moist, respiration a little hurried, and much thirst, which when indulged by taking cold water, gives rise to a chilly sensation. She complains of great weakness, violent headache on making the least exertion, and universal soreness of the limbs. She has slight cough and no expectoration. The res-

piration on the right side slightly puerile, and on the left shrillness and sharpness of bronchial respiration, as if the air was passing through metallic tubes loudness and increased expansion of the vesicular murmur in the lower third of the lung. Took blood to 15ʒ more or less, and ordered a purgative.

25th. Has had no sleep, less soreness in the muscles, great prostration, headache, increased heat of skin, hands and feet hot and dry, tongue frosted, expectoration viscid, frothy, the colour of tobacco-juice, and slightly streaked with blood. Applying the ear revealed the fine crepitation of pneumonia occupying the lower third of the left lung, slight bronchophony, and bronchial respiration. Took 12ʒ of blood, the patient being in a perfectly recumbent posture at the time, and ordered tart. antim. et potass. iv. grs., gum acacia ℈j., water ʒj., of this from twenty to forty drops every two hours according to the degree of sickness it occasions.

26th. Has slept none, tongue white and dry, pulse 120 and corded, expression of countenance bad, looking sodden, with dulness about the eyes, the blood drawn yesterday is very much buffed, the fibrinous coating being about a line and a half in thickness on a clot of blood about an inch in depth, great precipitation of red globules and the ordinary quantity of serum. The bowl had been kept in a cool room. No vesicular murmur is heard over the lower third of the left lung, over which region there is great dulness of sound under percussion; the fine crisp crepitation of pneumonia is heard as high as the spine of the scapula, marked bronchial respiration and bronchophony; respiration puerile on the right side. She has slight dyspnœa, and complains of great weakness after sitting up. Took 10ʒ of blood, more or less, from the arm, ordered the dose of antimony to be increased, and a powder containing sub. mur. hydr. and ipecacuan. aa. ij. grs. to be given every four hours.

27th. She has slept none, expression of face exceedingly anxious, complete dulness over the lower half of the left lung behind, fine crepitation at every other part of it except at a point directly beneath the clavicle: bronchophony and bronchial respiration very marked; the last blood taken is highly buffed. *Medicine* to be continued.

28th. More dulness on the left side, a coarse rhonchus and absence of vesicular murmur over the lower half of the lung; patient too weak to sit up in bed. The general appearances of the case indicate a fatal result. Ordered the medicine to be continued, and ligatures to be applied to the upper part of each thigh. As soon as the ties are fastened, the patient complains of feeling weak, and sick at her stomach, the skin about the head and trunk is very much relaxed, and the pulse much softer and less frequent. One hour after the ties were put on, she complained of a painful sense of numbness in both her legs, the vessels of which were very much gorged with blood. Directed the ligatures to be kept on, all medicine to be discontinued, and the barley-water to be given in small quantities.

29th. The ties had been kept on for twelve hours, when removed, the patient had slept for three hours, the first time since she went to bed: the pulse is soft, 100 in the minute; tongue moist, skin soft and open, expression of countenance cheerful, eye more brilliant, expresses herself as feeling much better; the upper half of the left lung is free from the fine crepitation which was so distinct yesterday, less bronchial respiration: a subcrepitant rale and an occasional rhonchus is heard in the upper half of the lung. Ordered the bandages to be applied a second time and to be kept on until they became painful.

30th. She is much better, has more cough than she has had at any time. expectoration more copious: at the upper part of the lower half of the lung, which yesterday indicated the second stage of pneumonia, a moist subcrepitant rale is heard.

1st. The bandage had been kept on fourteen hours, producing slight œdema of the lower extremities, below the point at which they were tied. There is much less dulness over the upper portion of the lower third of the lung behind, at which point a soft mucous rale is heard. Ordered the drinks to be given in moderation and saw that the handkerchiefs were firmly tied.

2d. No dulness except at the very base of the lung above which point a soft

subcrepitant rale and an occasional rhonchus are distinctly heard; the tubar sound is feeble and there is much less resonance of the voice. Directed that the handkerchiefs should be re-applied.

3d. Hæmostasis to the lower extremities does not produce the symptoms of syncope which it occasioned when applied the first time; it serves, however, to depress the pulse and keep the skin relaxed. She slept well all night and expectorated about a gill of mucus on waking; subcrepitant rale is heard at the very base of the lung, and an occasional rhonchus when she takes a deep inspiration. Ordered the ties to be applied at intervals. 5th. She is perfectly convalescent.

It was stated in the beginning of this arttcle, that the effects of hæmostasis are always in a direct ratio to the quantity of the circulating fluid, and the correctness of this position was explained by reference to a simple physical example: in confirmation of its truth, the reader's attention is now called to cases I. and II. These were selected for illustration, because we thought they would furnish the reader a more accurate and familiar idea of the exact amount of blood lost, and of the conditions under which it was taken, than any other analogous cases could have afforded. In both instances the individuals were of middle stature, with veins of medium development, had a normal quantity of blood in the circulation at the time the trials were made, and neither of them fainted from the direct effect of hæmostasis, when first applied to all the extremities: when however a certain quantity of blood, varying in the two instances, had been drawn, by which the central circulation was deprived of a very small quantity of blood, syncope came on. After the ties were removed, one of these individuals lost a considerable amount of blood without the occurrence of syncope; the other fainted, but not until many ounces of fluid had been withdrawn. And when the ties were again applied, both of them fainted outright. It being established then, that the effects of hæmostasis are in every instance dependant on the quantity of fluid in the circulation, attention is now called to two other conditions, which must modify its influence in producing syncope.

1st. The length of the extremities. 2d. The size of the veins of the peripheral or extreme circulation.

The height of the body depends generally, not upon the length of the trunk, but on that of the extremities; while therefore the central circulation in every individual remains nearly the same, the extent of the extreme vessels is constantly varying: consequently, in one individual the capacity of the veins of the extremities must be small, and in another large in proportion to that of the trunk, and the effects of applying ties must be correspondingly greater or less. When venesection has to be performed, it not unfrequently happens, that the veins of the extremities are so small, that great trouble is often required to find one of sufficient size from which to let blood. While on the other hand the extreme veins are sometimes found enormously developed. The quantity of blood which can be transferred from the central circulation, must of course depend on the size of the extreme vessels and the amount of fluid they are capable of holding. For example, in case III., the individual was over six feet in height, the veins were larger and more developed than usual, and the circulation appeared to have the degree of repletion which belongs to health. In this instance, syncope was induced from the direct effect of the ties, and without the previous loss of a single drop of blood.—The result here, was doubtless owing to the length of the limbs and the unusual development of the extreme veins.

Preparatory to excising a scirrhous mamma, ties were firmly applied to all the extremities, which reduced the pulse to a mere thread. The operation was then commenced by making two elliptical incisions, extending from the upper part of the third to the sixth rib; from these about an ounce of blood trickled down the walls of the chest and was caught in a sponge. In the course of the operation, which lasted about ten minutes, I found it necessary to sacrifice a large portion of the pectoralis major, and when the knife was laid aside, the fourth rib was bare to the extent of an inch and a half. No blood was lost during the course of the operation, except that which flowed from the two first incisions. The ties on the extremities were now loosened for the purpose of find-

ing the divided vessels, and in a little while a jet of blood was found to issue from two of the principal arteries, about which ligatures were quickly put. Torsion was applied to the smaller branches, and the capillary oozing stopped by the use of an astringent. In this operation the chief ramifications of the external and internal mammary arteries were divided and the quantity of blood lost, could not in all have exceeded two ounces. We have often applied ligatures to check hæmoptysis and epistaxis, and in every instance with success, but as these hæmorrhages are likely to stop at any time without interference, we considered these trials as unfair tests of the effects of hæmostasis and unworthy of special notice.

In case VII. it is observed, that the effects of arresting the venous circulation were much more marked at first, than they proved to be from subsequent applications of the ties. This was doubtless owing to the fact, that at first, hæmostasis was adopted soon after the loss of blood from the arm, at which time, the vessels were more empty than they were at subsequent trials, the circulation having been in the interval replenished by drinks. In every instance therefore, in which it is desirable to produce the full effects of hæmostasis, fluids should be sparingly given to the patients. From the physiological changes which were observed to take place, from arresting the venous circulation in other cases, it is fair to conclude, that the use of the ligatures contributed largely in cutting short morbid action, and in bringing about a state of convalescence.

In case VIII., the withdrawal of blood to the extremities, was practised at a time, when the condition of the patient was of the gravest character, and when perfect toleration to the action of antimony was established. Most writers agree that the beneficial effects of blood-letting in acute disease, are mainly attributable, not so much to the quantity of blood drawn, as to the syncope which the loss of it induces.—The correctness of this opinion, no one can doubt, who has witnessed the disgorging of the vessels of a recently inflamed part, in consequence of induced syncope from loss of blood: notwithstanding the opinion of Bouillard and others to the contrary.

During the short period of syncope which succeeds venesection, the vessels of a recently inflamed part may (the force with which the blood is sent to them being cut off) resume their natural calibre; but when the inflammation has existed for a greater length of time, so as to disable the capillaries, and these have laboured under protracted engorgement, by which the inherent vital contractility of their coats is weakened, the ordinary duration of syncope is insufficient to enable them to gather up and disgorge the abnormal quantity of contained blood. And besides this, if the engorgement have lasted long enough, the thinner portions of the blood are transfused into the interstitial tissue and other changes take place. In this state of inflammation, how incalculable must be the importance of a means, which will protract syncope indefinitely, so that the afflux of blood may be cut off, further injection of the vessels prevented, and time given for the transfused fluids to be absorbed. And this, too, in whatever part of the body the inflammation may be seated. In a case of acute articular rheumatism of the left elbow, for which the patient had been twice bled with little benefit, hæmostasis was applied to the arm of the opposite side, and to the two lower extremities, with great relief of pain and mitigation of the general symptoms. It is fair at least to infer, that in these cases hæmostasis contributed largely to the removal of the engorgement, and to the final recovery of the patients.

In another case, simple venous congestion of the lungs was speedily relieved by the application of ligatures. When blood is accumulated in the veins of the brain or lungs, hæmostasis promises well, but as a means of removing congestions generally, its application is not likely to prove universal, and for obvious reasons. When hæmostasis is applied, the blood which accumulates in the extremities is derived, of course, through the arteries. If there be a morbid collection of fluid in the veins of the lungs, it has only to pass to the left side of the heart, and then to a point beyond the ligatures, where it will be retained. But if, on the contrary, an abnormal quantity of blood should exist in the vena cava and its branches, or in the vena portarum, it would have to pass

to the right side of the heart, then the round of the pulmonary circulation, afterwards to the left ventricle, and lastly to a point beyond the ligatures. And independently of this, if, in congestion of the veins of the abdomen, ties were applied to the thighs, they would at once, as before explained, arrest half of that force which returns the blood through the vena cava back to the heart, and would consequently increase instead of diminish the stagnation of blood in the veins of the trunk. Detaining the blood in the extremities, anticipating a chill by means of ligatures, and thereby preventing its accumulation in the spleen and portal vessels, may possibly delay a paroxysm of intermittent; but when blood has already accumulated in the large veins of the abdomen, the adoption of hæmostasis would only augment the congestion.

It was stated in the commencement of this article, that pressure applied over the jugular veins will delay, and in some instances prevent syncope. Dr. Parry recommended compression of the carotids for the relief of nervous diseases. This suggestion appears to have excited at the time great attention. I quote the language of Dr. Pring in regard to it: "More than thirty years ago, the attention of Dr. Parry was, I believe, first particularly directed to the importance of the circulation, by a case of hysteria, in which from an obvious determination of blood to the brain, he was induced to try the effect of pressure on the carotids, with a view of diminishing the quantity of blood sent to this viscus. The symptoms were diminished, or suspended during the compression of the carotids, and repeated subsequent experiments of the same kind led to the conclusion, that the cause of spasmodic disease proceeding from disorder of the brain, consisted in a determination of blood to this part." Mention is again made of the suggestion in a letter to Dr. Parry, from M. Baillie, the author of the treatise on pathology. He says: "I saw Mrs. T. yesterday evening—I made the experiments which you had already tried. Upon compressing the carotid artery of the right side firmly, the involuntary motions of the fore-arm, arm, &c., were in a great measure checked, but were not at all affected by a similar pressure on the left carotid. This is certainly a strong proof of the truth of your opinion in this particular case." It is exceedingly difficult to compress a carotid so as to cut off its circulation, and this cannot be done without first arresting the flow of blood in the veins which lie over it. Parry believed that all nervous diseases depended upon an afflux of blood to the brain; he indeed originated the doctrine of local determination, and blinded by this idea, it never occurred to him that the relief derived might depend on compression of the veins, rather than the arteries of the neck. In a paroxysm of hysteria, congestion occurs in the lungs, giving rise to the distressing dyspnœa which so often accompanies an hysteric seizure, and the brain is deprived of its normal supply of blood. The relief which Dr. Parry and M. Baillie observed, was no doubt owing, not to the compression of the artery as they supposed, but to their having arrested the return-blood by the veins, by which means the normal quantity of circulating fluid was restored to the brain.

It is somewhat curious, that the means which are here proposed to induce syncope, should at one time have been used for the purpose of relieving it. An old and popular remedy for syncope, was to apply ligatures tightly around the limbs. The idea was that they impeded the flow of blood to the extremities. This practice has recently been alluded to by Mr. Wardrop, who countenances their employment, and endeavors to account for their influence on physiological principles. My friend, Dr. Fonerden, ingeniously suggests that the object here desired, may be better accomplished, not by means of ligatures, but by bandaging the extremities continuously from the fingers and toes to the trunk, so as to drive the blood from the peripheral, or extreme, to the central-circulation. May not such a practice be adopted with advantage, where an individual has lost so much blood, that there is only enough left in his system to supply the organs essential to life—the heart, brain, and lungs—and to the extremities of anemic women in protracted labour, where, owing to the pressure of the womb on the iliac veins, *nature's hæmostasis*—so much blood is cut off from the central-circulation as to deprive the brain of its normal supply, and thus rendering the pains weak, feeble, and inefficient?

It has been stated in many Journals as a fact, for which no explanation is offered, that raising the arm on the side from which the blood comes will arrest bleeding at the nose. That this may afford relief in mild cases, it is easy to conceive. When one arm is held perpendicularly upwards, the force of gravity accelerates the current of blood in the subclavian vein, which is now in a vertical direction; this rapid displacement of fluid, at the mouth of the jugulars, hurries the return-blood in them, and thus derives from the bleeding vessels of the nose.

Hæmostasis accomplishes what no other known remedy is capable of doing. It puts syncope under our control, both as to duration and degree. It is capable of exerting, under given conditions, a more powerful control over the circulation than the lancet, antimony, or digitalis, and controls the heart's action, without exhausting the vital forces, or giving rise to the ill consequences which the protracted use of most of the sedative agents is likely to do. And finally, hæmostasis, in the hands of judicious practitioners, must prove a means of saving an incalculable amount of human blood, to say nothing of the incredible benefits which would be derived from its adoption by those Sangrados of our art, who bleed empirically in all conditions, and who in many cases, like the fabled vampire, suck the living current until the vital powers are spent.

Maryland Medical and Surgical Journal, March, 1843, *p.* 265—309.

25.—NEURALGIA TREATED BY INDIAN HEMP.....By M. H. Lynch, M.D.

[This was a case of neuralgia above and around the right orbit, attended with agonizing pain of a "stabbing" character, which intermitted. A variety of treatment having previously failed, 45 drops of tincture of hemp resin (strength 3 grains to one drachm) were ordered to be taken each morning when the pain commenced.]

18th. The tincture has been regularly taken; it has made her feel "a little light in the head," and produced intense itching around the orbits, and over the body and extremities, especially the lower; the itchiness around the orbits is referred to numerous close set points; elsewhere the points are distant; there is no eruption; the itchiness is very intense for several hours after taking the dose, but afterwards diminishes gradually, but is felt at distant points of the surface twenty hours after the administration of the medicine. During the two first two days the neuralgia was singularly relieved after the medicine was taken; to-day, yesterday, and the day before, it has been altogether removed; dull headache, however, remains, such as she has long suffered from, and with it her dyspeptic symptoms. To discontinue all medicines.

21st. The neuralgic pain has not returned. To use laxatives and the following mixture: Sesquicarbonate of soda, half an ounce; infusion of cascarilla, 11 ounces; syrup of orange-peel, one ounce. Two table-spoonsful 4 times a day.

The dose of the hemp resin was very small in proportion to the effect produced on the pain; I was prepared to increase the dose to sixty or eighty drops before I could produce an impression on the disease. I should observe that the tincture was not made with resin brought from India, but with that prepared by Mr. Squire from the dried plant. Before I saw the case under consideration, I had administered the hemp resin in a few cases, but the itchiness (if any existed) escaped my notice. Since I observed the itchiness in B—— L——r, I administered several large doses (120 drops or six grains to each) to a gentleman aged sixty-four, of very robust make, but not corpulent. He had recently been under my care for a urinary affection, from which he had recovered, and having heard of the gunjah, out of curiosity requested to have some. 120 drops of my tincture produced heat of the skin, considerable exhilaration, with itchiness at the roots of the eyelashes and in a few points of the lower extremities and scrotum. There was no sexual excitement; he felt drowsy after the expiration of three hours, but being among cheerful friends, easily resisted the inclination to sleep. In him the itchiness was so moderate that he only named it in reply to my question. This gentleman smoked daily half a dozen cigars at least. I think decided tobacco smokers bear a larger dose of the hemp than others. The hemp does not produce constipation.

Provincial Medical and Surgical Journal, April 1, 1843, *p.* 9.

26.—ON STAMMERING.....By Dr. Abercrombie, Edinburgh.

At a meeting of the Medico-Chirurgical Society of Edinburgh, Jan. 4, 1843, Dr. Abercrombie communicated "Observations on the Impediment of Speech, commonly called Stammering." When Dr. Abercrombie's attention was first directed to the subject, the following facts attracted his notice:

1. He observed that stammerers never stammer in singing. 2. The individual on whom his first observations were made, did not stammer when he was obliged to speak in a louder tone of voice than usual, as when conversing in the midst of a noisy crowd, or in a carriage on a rough road. 3. The precentor of a church came under his notice, who stammered in common conversation, but showed no hesitation when reading out the line, as it is called, which was done in a peculiar high-pitched tone of voice, such as is usually employed by precentors for that purpose. 4. He found that stammerers have no difficulty in performing any of those movements of the lips and tongue, by means of which the consonant sounds are produced, when they are directed to make these movements simply—that is, without any reference to speech. 5. He observed that in some stammerers the difficulty is not confined to the consonant sounds, in which the peculiar action of the organs of speech is more directly exerted, but extends to other sounds, in which these organs are little, if at all, concerned, such as the simple aspirated *h*, as in the words *happiness*, *holiness*, &c. In one individual, indeed, who was treated successfully, he found that he often hesitated at such words as these, long after he had overcome every difficulty respecting the consonants.

By such facts as these he was led to conjecture that the affection does not depend upon any defect in the organs of speech, properly so called; but is rather connected with a deficiency in the management of the voice; and he thought it would be found that, when a stammerer gets into that peculiar state of hesitation which is familiar to every one who has witnessed it, he is endeavoring to speak when he has no voice—that is, when the lungs have become emptied of air, or nearly so.

According to these views, the principles on which the affection may be accomplished appeared to be the following:—In actually accomplishing a cure, everything depends upon the perseverance of the patient himself, after the principles have been explained to him.

I. To direct the attention of the individual to the three distinct parts of which the functions of speech consist—viz: 1. A full and continuous current of air proceeding outwards from the lungs. 2. The formation of this into articulate sound, or voice, by the action of the larynx. 3. The formation of this into articulate sound, or speech, chiefly by certain movements of the lips and the tongue.

He soon perceives that he has no difficulty in performing any of these actions, when they are thus made separate objects of attention; and in this manner he is led to understand that his affection does not depend upon any defect in any of the organs of speech, or a difficulty of performing any of the processes of which the function consists; but in a certain want of harmony among these processes, which has grown into a habit. He is easily made to perceive, for example, that he has no difficulty in performing that motion of the lips by which is formed the sound of the letter *b*, then why should he have any difficulty in saying *bee*, *boy*, *bell*, &c. When the formation of each letter is thus made a separate object of attention, or a distinct voluntary act, it is remarkable to observe how the difficulty seems to vanish; and, by continued attention in this manner, the habit is gradually broken, in as far as concerns this part of the process.

II. The second, and principal part of the treatment is, to exercise the individual in the habit of never attempting to speak without having A FULL AND STRONG CURRENT OF VOICE. He may be made sensible of this by making him read in a strong, loud tone of voice, as if he were calling to a person at a distance, or in a tone resembling singing or chanting, or in the peculiar tone of a precentor, in reading out the line, which has been already referred to. When he has thus been made to understand the principles on which the removal of the affection is to be conducted, the farther treatment consists in a course of exercises calculated to give him a full command of his voice, and so to correct the

habit which he has acquired, of speaking, or attempting to speak, without sufficient voice. For this purpose he should be made to read aloud several times a day, from an author whose style is somewhat declamatory. In doing so, he should be made to read in a high-pitched tone, and to stop frequently and take a full breath, so as to have the voice thrown out with a force beyond what is required for ordinary reading, or ordinary conversation. With this view, it is necessary to make him stop and take a full inspiration much more frequently than would be required by another person; for it is in this part of the process that we are to trace, in a great measure, the bad habit which he has acquired, and the opposite habit which he is required to cultivate. In particular, whenever he feels the tendency to hesitate at a word, he is to be taught to stop instantly, take a full breath, and then try it again. He will be immediately sensible of the effect; and a succession of voluntary efforts of this kind will be gradually formed into a habit, calculated to correct the injurious habit, in which, I believe, we are chiefly to trace the pathology of stammering.

In a note appended to this paper, Dr. Abercrombie remarked that, since his observations were written, he had found that the same principle respecting the influence of respiration in this affection, had been pointed out by Dr. M'Cormack, of Belfast, in a small volume published in 1828.—*Edin. Monthly Journal. Ibid., March* 4, 1843, *p.* 455.

27.—TREATMENT OF BRONCHITIS....By C. J. B. Williams, F.R.S., &c., &c.

In the sthenic form, where there is a hard, full pulse, with heat of skin, there is no doubt of the propriety of using the great remedy for inflammation—that is, blood-letting, both general and local; but it is not to be used extensively, for the patient does not bear the loss of a large quantity of blood. Moderate bleedings give relief, but it is not permanent. Small blood-lettings from the arms, and cupping between the shoulders are necessary. We must, in fact, rather consider that the true termination of this inflammation is by expectoration, as this is the natural mode in which the vessels relieve themselves. And it is very rare that we can stop this termination by any kind of blood-letting. The remedy most useful, and perhaps, even above blood-letting, because it is more safe, is tartarised antimony, given in doses of from a quarter of a grain to half, or even a whole grain, every three or four hours, in combination with hydrocyanic acid, to prevent the cough, or digitalis, if the pulse is frequent and hard, or colchicum, if the urine is particularly scanty; and generally combined with narcotics, to quiet the severity of the cough. It is not advisable to give narcotics in the first stage. The effect of opium is to check the expectoration and increase the pulmonary congestion. You must not, therefore, combine opium with tartar emetic as an expectorant. Opium should be given with belladonna and stramonium. It may be given in combination with calomel, in the sthenic as well as the asthenic form, where the stomach is too irritable to bear antimony, and where there is great tenderness at the epigastrium, and some signs of fulness, a very much loaded tongue, and disordered evacuations. Here calomel or mercury, together with small doses of opium, are often highly useful. Blisters are not suited to the sthenic state of bronchitis, where the heat of skin continues, and the pulse is very strong and hard; but even in this stage some forms of irritations may be useful. I have seen tartar emetic in this case rubbed over the surface of the chest, produce a copious pustulation, affording more decided relief than blisters. The mode of doing this, I have before mentioned. After rubbing in the tartar emetic with a piece of flannel, place a bit of flannel, soaked in the solution, on the chest; then place a piece of mackintosh cloth over it: this has the effect of keeping up an action like a warm poultice. This is actually an irritating poultice, and causes pustules in great quantity. This may be used where the strength is too low to bleed; and where you do not like to apply blisters, which often increase the fever, until the blisters rise. But when the inflammation has given way, in some degree; when the pulse has lost its hardness, and the skin has lost its heat; and something like lividity begins to appear; when the expectoration becomes somewhat opaque, then blisters may be used freely, and give most effectual and permanent relief. Small blisters often cause

quite as much irritation as large ones, but they do not produce that effectual discharge on which the great efficacy of the blister depends. In this case, too, as the acute stage begins to decline, and the symptoms become more asthenic, then it is of great consequence to give remedies to promote the act of expectoration. The remedies most useful are salts and senna, citrate of ammonia, and where there is great difficulty in the expectoration, carbonate of ammonia and squill, and various other means to keep up the strength. It becomes sometimes necessary to give not only carbonate of ammonia and æther, and other stimulants, but, where the patient is gasping for breath, you must give brandy and wine to keep the patient alive. The good effects of this treatment are generally manifest in the general symptoms before they become perceptible in the physical signs. The pulse becomes firmer, and the countenance improves—becoming less livid, the breathing less laborious, and the expectoration more easily thrown off; after a time the improvement is indicated by the physical signs. The greatest care should be observed in the employment of the antiphlogistic treatment, in the asthenic form of bronchitis. Cupping, or a few leeches, or blisters, instead of drawing blood, may be used in the early stage. Tartarised antimony, too, may be given with some stimulant expectorants—salts of ammonia and others. Opium may be more freely used in the asthenic form of bronchitis. Sometimes æther and hot brandy and water are necessary to enable the patient to expectorate, and in young children, mercurial purgatives and emetics are of great use.

Chronic inflammation of the air passages may arise from the acute disease. At the latter stage the fever subsides, or becomes much diminished; the pulse loses a good deal of its hardness, yet it continues frequent, and the expectoration continues, but it has greater opacity. This catarrhal inflammation also affects the nasal passages, and sometimes there is permanent chronic inflammation in them, accompanied by purulent discharges, and sometimes ulceration, even affecting the bones of the nose; and sometimes, too, it is connected with exanthematous vesicular inflammation, affecting the lining of the nose. A bad odour seems to arise from the action of the air on the secretion in chronic bronchitis. Chronic bronchitis is not at all uncommon in the slight form, and it often arises from imperfectly cured acute bronchitis. Bronchitis may continue, when not treated as it ought to be, and end in the severe kind.

It frequently happens, that where persons are affected with bronchitis they let it go on, and, neglecting the treatment, they expose themselves to cold, and drink intoxicating liquors, which has the effect of keeping up the chronic form. Coachmen, coach-porters, and others, are often laboring under bronchitis, kept up by continual exposure to cold, and their habits of excess. I need not dwell long upon the symptoms of this disease. The fever is very slight, perhaps only a little at night, and the cough comes on more in paroxysms, or less constant. Generally the expectoration is of a compound character, consisting of round masses of an opaque color, sometimes purulent, with little shreds of solid matter, and often liquid in it. When the expectoration is copious and purulent, as it sometimes is in bronchitis, partiularly in that supervening after exanthematous, or eruptive and hectic fevers, it is necessary to resort to physical signs; you find the absence of tubercles, and you find the various catarrhal rhonchi shifting and changing about from part to part, not permanently fixed in any one spot. The emaciation is generally less in hectic fever than in phthisis.

In all cases where there are expectorations, and the general symptoms I have been describing, you always find some signs of disease in the texture of the lung, either manifested by dullness or impeded respiration; and, as I have before told you, there may be, as the causes of bronchitis, emphysema of the lung or organic disease of the heart.

A very formidable kind of common bronchitis is often induced by habitually inhaling dust from the air, to which many persons are exposed in certain occupations. The lining of the tubes becomes thereby very much inflamed. There is ulceration in chronic bronchitis, accompanied by organic disease of the bronchi. Chronic bronchitis is often induced by habitually taking in poisonous dust, and it frequently occurs among needle-pointers, stone-cutters, and others

who are continually breathing in irritating matters with the common air. In these cases, the disease comes on gradually increasing, and dyspnœa and cough follow. Sometimes there is purulent albuminous expectoration, with little shreds of lymph in it. Sometimes this disease extends to the structure of the lungs themselves, causing consolidation of the lung, and if this is extensive, as it sometimes is, it terminates in some cases in consumption. Chronic bronchitis, in young persons, may follow measles, small-pox, and scarlatina, and this is a more serious form of disease, because the inflammation is here more intense.

The morbid anatomy of bronchitis presents more varieties in colour than any thing else; and in very rare cases there are ulcerations. The prognosis of chronic bronchitis depends on the amount of disease, and its complication with other diseases. In simple chronic bronchitis, blood-letting is often necessary where the patient is plethoric. Local blood-letting, cupping between the shoulders, or the application of a few leeches at the top of the sternum, is often enough. The chief remedies used are an external counter-irritation, combined with remedies to improve the state of the constitution. A succession of blisters applied to the chest is often useful, where the expectoration is excessive, and of a somewhat purulent character, and without fever; it is sometimes also useful to employ mineral acids, and in these cases it is often found that the inhalation of iodine vapour is useful. In most cases it is proper to use purgatives and expectorants. Narcotics may be given from time to time. It is of great consequence, in chronic cases, to attend to the general state of the functions, and if there is anything like gastro-enteric disorder, to give small doses of mercury to conduce to the proper action of the liver and keep the bowels open; and to remove any gouty tendency that often occurs in combination with chronic bronchitis, one of the best remedies is colchicum. It is important to observe carefully the diet: generally speaking, it should be simple, but not too starving, mild, farinaceous food, and a little of the lighter kind of animal food, seems best. It is useful to avoid stimulating liquors, and to avoid other sources of irritation, and also extreme heat and cold—taking care not to allow the patient to be exposed at night, or to the east winds.

Medical Times, April 22, 1843, *p.* 54.

28.—FURTHER REMARKS ON THE IODURET OF SILVER.

By Charles Patterson, M.D.

[In Retrospect Part VI, Art. 1, we noticed an interesting paper by Dr. Patterson, on the effects of Ioduret of Silver in different affections of the stomach, &c. Dr. P. has since been convinced of its decided efficacy in *hooping cough*, the following case of which he relates:]

A clergyman residing in Rathkeale had eight children almost simultaneously attacked with hooping cough. Their several ages varied from one to ten years. In none was the disease complicated with any serious degree of bronchitis; but in all, the fits of coughing were continually recurring with very brief intervals.

In fact, the moment one child began to cough, the whole, from imitative sympathy, immediately became seized with a paroxysm; and there being so many of them, made the attacks so frequent as to render their state most pitiable. In some the attacks were attended with very distressing fits of sneezing, either preceding or alternating with the cough. Three or four had frequent attacks of epistaxis; some had more or less vomiting; and in two the spasms were so violent as to cause extensive effusion of blood into the subconjunctival tissue in both eyes. It was observed that there were three or four of the children in whom the disease was much more severe than in the others. It was with one or other of the former that the paroxysms generally commenced, and then extended to all.

The disease had subsisted unabated for about a fortnight, when, having selected the four children in whom it was most severe, for treatment with the ioduret of silver, I gave the father a supply of pills; those for the younger contained the eighth of a grain, and those for the elder a quarter of a grain in each. The quantity of pills was calculated to answer about a week, one to be given three times a-day. I also, for the purpose of being enabled to form a comparative

estimate of the efficacy of the ioduret, at the same time prescribed a combination of ipecacuan and antimonial wines for the other children, who were less severely affected. When I called in four days afterwards I found all the children greatly relieved. The paroxysms were much less frequent, and were greatly abated in severity. But I was surprised to learn that all the pills were used, until the father explained, that, perceiving the great amendment which almost immediately took place in the poor little patients who were taking the ioduret of silver, while there was no sign of amendment in the others, he had been for two days, of his own accord, giving the pills to all. The ioduret of silver was then continued with all the children for about ten days more, at the end of which time, the hooping cough, with all its symptoms and effects, had entirely disappeared, except that a slight, occasional, catarrhal cough remained for a few days; but it, however, subsided without any medical treatment.

I have continued to employ the ioduret of silver also with considerable success in all those other complaints, of which cases have been adduced in my former paper. But in epilepsy its effects have been least satisfactory. In one case of that disease, given to the extent of two grains three times a-day, it protracted the intervals of the fits from one week to three weeks; and, after a course of two months, having been laid aside for oxide of zinc, the paroxysms again recurred weekly. I have also given it in other diseases. In two cases of protracted leucorrhœa, in combination with alum lotion; in a case of supraorbital remittent neuralgia, in a lad about sixteen years of age; in periodical colic, an affection to which the Irish peasantry are very liable; and in several cases of painful hysterical affections it has been most beneficial.

I have at present under my care a young lady who has been suffering for the last three years under painful and scanty menstruation. Immediately before, and during the first two days of the menstrual accession, her sufferings were usually most acute. In her case various modes of treatment had been employed but without material benefit. At length, about three moths ago, she commenced to take the ioduret of silver. Since then she has had three monthly periods, and in each the diminution of pain and increase of the catamenia have been most marked and progressive, insomuch so, that during the last accession, which occurred about a week back, she only complained of slight pain at the commencement. She takes the ioduret of silver in half grain doses, increased to two grains twice a day, during the ten or twelve days previous to the expected return of the menses; and as soon as she perceives the accession of the discharge, and while it continues, she takes the ioduret three times a-day; but as soon as it declines she omits the medicine altogether for a fortnight. The greatest improvement has taken place in her general health and appearance.

But it is not to be expected that the ioduret of silver is what the nitrate is not—that is a sovereign remedy in every case in which it may appear to be indicated. For instance, I have been giving it with very little benefit to a man who has been greviously afflicted with frequent pain in his stomach, and vomiting of intensely acid fluid, and who is relieved only by prepared chalk, which, when taken for a few days, affords considerable intervals of ease. Sometimes, after taking the chalk he immediately discharges his stomach, the effect of the sudden extraction of gas, when the matter vomited appears in a state of brisk effervescence.

The oxide of silver has been lately proposed by Mr. Lane as a substitute for the nitrate, with the view of preventing the discolouration of the skin. I do not doubt that as a medicinal agent the oxide is equally effective in some instances as the nitrate; but I think there can be no doubt that the long continued use of the one is just as capable of producing cutaneous discolouration as that of the other. It has been shown that when nitrate of silver is internally administered, it is in the stomach converted into the chloride by the muriatic acid which it meets in that organ; (see Retrospect, Part VI., Art. 1,) consequently it is the chloride of silver that, absorbed into the circulation, is conveyed to the cutaneous capillaries, and there suffers that transformation which causes the discolouration. Now, there can be no doubt that the oxide of silver is in like manner converted into the chloride when internally exhibited. Of this any person may easily satisfy himself by adding a little *liquor potassæ* to a solution of nitrate of

silver, washing the precipitated snuff-brown oxide by decantation, and then pouring on it some distilled water containing a small portion of muriatic acid, when its brown colour will be seen immediately to change to a pure white, showing its conversion into chloride, which on exposure to light will assume the characteristic leaden tint.

It may be deemed superfluous to adduce any experiment in proof of the displacement of oxygen by chlorine—a fact which is so generally known. But Mr. Lane says that from experiments he has made, but which he neglects to describe, he does not anticipate such a result in the case of oxide of silver. Now on that point, which he very cursorily dispatches, and respecting which he is so greatly mistaken, depends the whole value of his views and suggestions regarding the advantages he supposes to be possessed by the oxide.

Dublin Medical Press, April 19, 1843, *p.* 248.

29.—Removal of DISCOLOURATION OF THE SKIN produced by Nitrate of Silver. By HENRY GRAHAM, M.D.

[Seeing Dr. Patterson's interesting paper on nitrate of silver in the Dublin Medical Press, for August 24, 1842 (and abridged in Retrospect VI, Art. 1), Dr. Graham states, that three or four years ago being engaged in some photographic experiments, he observed the effect of the hydriodate of potass in discharging the colour from paper which had been covered with the nitrate or phosphate of silver, and darkened by exposure to light, and resolved to try its effects on the human subject in cases of discolouration of the skin, produced by the long-continued use of the nitrate of silver. He says:]

I first used the hydriodate of potass, rubbed up with tinct. sapon. as an external application. This was well rubbed into the skin of the face night and morning, and the patient directed to expose himself as much as possible to the action of the solar light. It was then used in combination with the unguent. hydrarg. and afterwards in the form of a strong solution in water. It was also given internally to a considerable extent. (In this case the internal use of nitric acid had been persevered in for some time, at a former period, by the direction of one of the Professors in the University here, but without any effect.) From the time above mentioned up to this date, the external use of the hydriodate of potass has been continued especially during the summer season, when the action of the sun's light is most favourable, and the internal exhibition of the medicine has been adhered to, with occasional intermissions, lest it should act injuriously upon the system.

The effect has been that the blueish leaden hue has been partially changed more to a brownish tint, and the skin has become to a certain extent lighter in colour. In some parts of the face the discolouration has been materially lessened, and the natural colour of the skin has in some degree become perceptible. No bad effects have resulted from the long-continued internal exhibition of the hydr. potass. The unguent. iodin. of the last edition of the Edinburgh Pharmacopœia, and iodine combined in a still larger proportion with the hydriod. potass. have also been used. In this case, the discouloration has existed upwards of fourteen years.

Dublin Medical Press, Feb. 1, 1843, *p.* 69.

30.—HYDRATED PROTO-SULPHURET OF IRON AS AN ANTIDOTE TO CORROSIVE SUBLIMATE.....By M. MIALHE.

I have discovered from experiments that hydrated protosulphuret of iron, a perfectly inert substance, instantly decomposes corrosive sublimate; protochloride of iron and bisulphuret of mercury, two inert substances, are formed, from which valuable property I am induced to designate this sulphuret of iron as the best antidote to the violent poison alluded to. I intend shortly to publish the details of my chemical and physiological investigations on this subject, but the following chemico-physiological fact may be stated as a strong evidence of the efficacy of this antidote: When a small quantity of bichloride of mercury is taken into the mouth, there is speedily experienced an insupportable and characteristic metallic taste. If now, the mouth be gargled with the hydrated sulphuret, in a thick state, such as it should always be used in, the mercurial

taste is removed as if by enchantment. This fact requires no comment; it speaks sufficiently for itself, without further explanation. The antidote I am now recommending is not limited in its effects to the mercurial salts, it is equally useful in counteracting the deleterious operation of several other metallic salts, especially those of copper and of lead.

The following is the mode of preparing the hydrated protosulphuret of iron: Dissolve any quantity of pure protosulphate of iron in at least twenty times its weight of distilled water, deprived of air by boiling, and precipitate the iron with a sufficient quantity of sulphuret of sodium, dissolved also in distilled water, deprived of air. Wash the protosulphuret thus obtained with distilled water, and preserve it in stoppered bottles, filled with boiled distilled water.

Although the preparation of this sulphuret of iron is very simple, and may be effected in a few minutes, yet it would be desirable to keep it always prepared, that no time may be unnecessarily lost in any case of poisoning.

The precaution of preserving this sulphuret out of contact of the air, must be strictly observed, as it has a great tendency to pass into the state of sulphate.—*Journal de Pharmacie.* *Pharmaceutical Journal, Dec.*, 1842, *p.* 411.

31.—REPORT ON THE RESULTS OF INOCULATION IN MEASLES.

By Dr. M. Von Katona, of Borsoder, in Hungary.

In a very malignant and wide spread epidemic of measles in the winter of 1841, the author inoculated 1122 persons with a drop of fluid from a vesicle, or with a drop of the tears of a patient with measles. The operation was performed in the same manner as inoculation for small pox. It failed in 7 per cent. of those on whom it was tried, but in all the rest it produced the disease in a very mild form, and not one of them died. At first a red areola formed round the puncture, but this soon disappeared; on the seventh day fever set in, with the usual prodromi of measles; on the ninth or tenth the irruption appeared; on the fourteenth desquamation commenced, with decrease of the fever and of the eruption; and by the seventeenth the patients were almost always perfectly well again.—*Oest. Med. Wochenschrift.*

British and Foreign Med. Review, Jan., 1843, *p.* 235.

32.—REMARKABLE CASE OF CONGENITAL SMALL-POX.

A woman, twenty-four years of age, entered the Maternity Hospital in Paris to pass her first confinement. Labour commenced two days after her arrival; and after the lapse of fourteen hours (*jours*, says the original, but this is evidently an error) she was delivered of a female child. The face, scalp, and different parts of the child's head were covered by a pustular eruption, which was soon recognised to be veritable small-pox. The mother retained the marks of vaccination, and stated that she had never had the small-pox, nor during her pregnancy had she had any connexion with persons suffering under that disease, nor even heard of its prevalence in her neighbourhood. Only, about eight or ten days before, she had gone to see a patient at La Pitie, near whom lay another patient in the small-pox. She had paid no attention to this circumstance till recalled to her recollection by minute inquiries. No untoward effects ensued, either to mother and child, and both left the hospital in perfect health soon afterwards.—*Bulletin de l'Acad. Royale.* *Lancet, Feb.* 18, 1843, *p.* 741.

33.—TREATMENT OF PASSIVE DROPSY ....By M. Debreyne.

As serous evacuations in the cure of dropsy pass off most frequently by the kidneys and intestines, M. D. is of opinion, that the diuretics and purgatives employed to attain this end, ought to be combined; at the same time he recommends a dry diet, and that the patient should drink as little as possible. If the thirst is very urgent, it ought to be allayed by sucking oranges, grapes, citrons, &c. The following is the composition of what he calls his strong diuretic wine.

℞. Pulv. Jalap, grammes viij: Pulv. Scillæ, grammes viij; Nitratis Potassæ, grammes xv. M.

These substances are to be macerated for 24 hours in a bottle and a quarter

of white wine, and he directs a table spoonful to be given three times a-day; the dose is to be gradually increased until nine table spoonfuls are taken daily. The stools, he says, ought never to exceed seven or eight per diem. If there is merely œdema of the lower extremities, he gives his weak diuretic wine, the ingredients of which are,

℞. Nitratis Potassæ, grammes xij; Baccæ Juniperi, grammes lx. M.

These are also allowed to remain for the same length of time in a similar quantity of wine, and the dose consists of a wine glassful three times a day. M. Debreyne by no means avers that these remedies are specific. They are only to be employed in passive dropsy, which cannot be cured by a rational treatment directed either to attack the cause of the disease, or one had recourse to with that view.—*Bulletin Therap.*; abridged from *L'Experience.*

Lon. and Edin. M. Journal of Med. Science, Feb. 1843, *p.* 147.

34.—NITRATE OF POTASS IN ASTHMA.

A correspondent of the New York Medical Gazette, says that he had derived essential benefit from using the following remedy, in severe attacks of asthma, and has prescribed it for several patients with equal success. Immerse thick porous paper in a solution of nitrate of potass, or common saltpetre, and hang it up to dry. At the approach of a paroxysm, inhale the vapour by burning it in the room, or smoking it in a tobacco pipe. The writer says, he "is acquainted with several asthmatics who are unable to breathe in a recumbent position until their sleeping apartment had been filled with the above vapour."

We can add our testimony to the utility, in some cases, of this remedy. We have several times prescribed it, and in some cases the relief it afforded seemed almost magical, in others, however, it entirely failed. The solution of nitrate of potass should be a saturated one; and after the paper has been immersed and dried it is best to immerse it a second time. A very good plan of filling the room with the vapour, is to roll up a sheet of the proper size, and place it in a candlestick. The end being then ignited, it gradually burns and the vapour diffuses itself through the chamber.

American Journal of the Medical Sciences, Jan. 1843, *p.* 262.

35.—ON PREPARATIONS OF THE CITRATE OF IRON....By M. MIALHE.

The "Journal of Chemistry" gives the following formula for the preparation of the citrate of iron:—Take, of crystallised citric acid, three parts; hydrated peroxide of iron, two parts; distilled water, twelve parts. Boil together until the oxide is completely dissolved; then filter and add enough of water to replace what has been evaporated, and make up twelve parts of fluid. If we wish to obtain the citrate dry, a layer of the fluid is placed on a square of glass and evaporated in the stove. The citrate of iron thus obtained is of a fine rusty red colour; dissolves perfectly, though slowly, in water; is of a strongly acid taste, astringent, and slightly styptic. Within the last few years—that is, since the citrate of iron has been introduced as an article of trade—two very distinct varieties are to be found in chemists' shops. One presents the characters just mentioned, and is the pure citrate of the peroxide of iron. The other is the preparation of a very different kind; it dissolves much more quickly in water, and the solution, instead of being of a yellowish red, is of a yellow green colour; its taste is rather alkaline than ferruginous; in a word, it is a double citrate, containing a greater or less proportion of soda or ammonia. Now, as it seems clear that these two preparations must possess different medical properties, I think that physicians would do well if they would distinguish, in their prescriptions, the acid from the alkaline preparation.

EFFERVESCING CHALYBEATE WATER.

Water, 625 scruples; dry citrate of iron, 1 scruple; citric acid, 4 scruples; bicarbonate of soda, 5 scruples; add first the citrate of iron and citric acid; then the bicarbonate of soda, taking care to cork the bottle at once, and secure the cork.

This latter preparation has very little metallic taste, and is quite as agreeable as the Vichy water; when mixed with wine it does not render it turbid as Vichy water does, and is certainly a more active remedy.—*Bul. de Therapeutique.*

Provincial Medical and Surgical Journal, Dec. 10, 1842, *p.* 210.

36.—CREOSOTE IN LEUCORRHŒA....By Dr. R. H. Allsatt.

Some years since my attention was drawn to a case of gonorrhœa in a female which had resisted a variety of measures for its removal, and as it was at the period when creosote was being introduced to the notice of practitioners by the most extravagant eulogies, and was lauded (as new remedies are sometimes wont to be) as a specific for almost all diseases, I was induced to give it a trial in the case alluded to. As my observations were published at the time, I will merely state that the effects of the creosote were strikingly marked, and that the discharge (which was very copious) was speedily subdued. Since then I have employed the same remedy in leucorrhœa, with the same beneficial results. A record of the last case, taken from my notes, may, perhaps, illustrate the rapidity of its action, and the precise method of its employment:—

A. E., a young woman in the fifth month of her first pregnancy, labouring under leucorrhœa, which had subsisted many years, and had increased rapidly from the first month of conception. The discharge, at the time she first consulted me, was exceedingly profuse, amounting, according to her own statement, to upwards of twelve ounces in twenty-four hours, and was of an opake dirty yellow (muco-purulent). She had been treated with the ordinary astringent injections, and had taken copaiba and cubebs in large quantities, without the slightest relief. The copiousness of the evacuation produced a certain degree of emaciation, and from being a robust vigorous woman, she was now anemic, and rapidly wasting in vital and physical energy. I ordered the usual creosote injection, and the discharge was materially arrested on the third day of its application, and, as I have not since seen the patient, I presume I may note her down as "convalescent." The physiological action of creosote on morbidly secreting mucous tissues opens, I think, a wide field of inquiry. The following is the formula I generally adopted for adults:—

℞ Creosote, minims xx; solution of potash, ʒij; white sugar, ʒij.
Rub together in a mortar: afterwards add, by degrees, eight ounces of water. Mix. Make an injection, to be used three times a day.

In obstinate cases of gleet, occurring in flabby leucophlegmatic *males*, I propose this remedy to the notice of practitioners with great confidence.

Lancet, Dec. 31, 1842, *p.* 504.

37.—LEUCORRHŒA CURED BY IODINE.

M. Ch. Van Steenkiste has published the details of two cases of leucorrhœa treated with iodine injections, in the "Annales de la Societe Medico-Chirurgicale de Bruges." The first case in which he tried it was that of a sempstress, twenty-two years of age, of a scrofulous constitution, who had laboured under leucorrhœa three years. The discharge was thick and abundant, and of a milky or slightly yellow colour. The patient presented all the symptoms of anæmia; the mucous membrane of the vagina was very pale, the cervix uteri red and tumefied. The genitals were excoriated. An injection, containing four scruples of iodine, sixty of alcohol at 25°, and 125 of common water was ordered for her, of which about thirty scruples were thrown up into the vagina. Heat and irritation were immediately experienced in the parts, and the discharge ceased entirely for three hours, returning then in larger quantity than ever, accompanied for a few minutes with very severe pain in the genitals, headache, and general spasms. These symptoms soon disappeared, and the discharge did not again return till the next day, when the same quantity of iodine was injected, less severe symptoms following its use. The catamenial secretion, which had been absent seven months, appeared towards evening, and continued for three consecutive days, unaccompanied by any other discharge. On its cessation, the leucorrhœa again showed itself, but in less quantity than before. M. Steenkiste, desirous of retaining the iodine more in contact with the vaginal mucous membrane than it had been previously, introduced a speculum, with the assistance of which he filled the vagina with five pieces of charpie, soaked with the iodine, and left them there, intending to remove them in an hour's time. Four of these pledgets were expelled by pains which came on in the interval, and when the surgeon sought to withdraw the fifth he could not introduce the speculum, the

vagina was so contracted. The cure thus induced has been permanent, and the catamenia have again appeared. The second case was equally satisfactory.

Provincial Medical Journal, April 22, 1843, *p.* 80.

38.—ON CANCRUM ORIS, AND PHAGEDÆNA OF THE CHEEK.

By Henry Hunt, M. D.

Dr. Hunt describes these diseases as being identical, varying only in the degree of severity—both commencing by ulceration of the mucous membrane of the cheek, or where it joins the gums, and that the external eschar is the consequence of the internal ulceration. He considers them to proceed from a cachectic state of the system; that they occur more commonly in cold and wet weather—sometimes attacking several members of the same family simultaneously, and occasionally prevailing almost like an epidemic. The author has treated them very successfully by a free exhibition of the chlorate of potash, the beneficial influence of that salt being generally apparent within forty-eight hours of its being given, that it seldom fails to arrest the progress and to effect a cure, if administered prior to the patient being very much exhausted. The quantity of the salt he has been in the habit of prescribing varies from ℈j. to ℈ij. in twelve hours, according to the age of the child.

Medical Gazette, April 7, 1843, *p.* 76.

39.—VALUE OF TURPENTINE IN INTERNAL HÆMORRHAGES.

By W. Hughes Willshire, M.D., M.B.S.

I consider the profession highly indebted to Dr. Copland for the strong manner in which he has drawn the attention of practitioners to the remedial powers of turpentine in hæmorrhages generally. I have used this agent very extensively, and in no case but one has it failed where it was employed; this was a case of hæmatemesis. I regard it as one of the most able weapons in the hands of the practitioner, and, as Dr. Copland has remarked, when absorbed into the circulation its astringent effects on the capillaries are remarkable. It has, besides, this great value, that it acts more quickly than any other astringent, and I have seen hæmoptysis which continued in spite of other remedies yield at once to this. In one case, I remember, the discharge supervened after the turpentine was omitted, and ceased again on having recourse to it; came on once more and disappeared again as the turpentine was omitted or renewed, and the succession of phenomena were rather rapid, though strongly marked; in this case the turpentine was continued for some time after the last discharge, and no more occurred. It has, again, another advantage, that it may be administered both in the active and passive forms of the disease, if due regard be paid to the vital powers of the patient. Large doses reduce the power of the heart and constringe the capillaries after the temporary excitement of the nervous system, which, it is confessed, it often, but not always, produces; but as Dr. Copland has remarked, however, with respect to one sequence of its local action, this general nervous derangement soon subsides; in such doses it is valuable in the more active conditions. In smaller doses it strengthens the minuter vessels and alters their powers so as to restrain their sanguineous effusion without lessening the vigour of their vital powers generally, and thus it is adaptable to passive states of the disease. In those cases in which smaller doses have been employed I hold it to be necessary that it be continued some time after the last ejection of blood.

Lancet, Dec. 31, 1843, *p.* 492.

40.—GASEOUS CHALYBEATE WATER POWDER.

℞. Bicarbonate of soda 98 parts, tartaric acid 116 do., sulphate of iron 3 do., sugar (white) 280 do.—Mix in the state of coarse powder, and keep it dry.—This is the quantity for one bottle (quart).

Medical Times, April 22, 1843, *p.* 64.

41.—NON-RESTRAINT SYSTEM IN THE MANAGEMENT OF THE INSANE.

The system of non-restraint so happily transplanted from Lincoln to Hanwell still flourishes and bears fruit. If it is a subject of just exultation to the French, that Pinel abolished the use of chains at the Bicetre, and first emanci-

pated lunatics from the reign of terror, we may boast that the scholars can now instruct their teachers, and return the lessons of philanthropy with rich usury. Dr. Crommelinck has lately sent in a report to the Minister of the Interior, in Belgium, on the lunatic asylums of England, France, and Belgium, clearly showing the superiority of our own. The appearance and general state of the patients in the wards of Hanwell, the order, activity, and cheerfulness, which pervade the Asylum, and the rapid subsidence of the wildness of new patients, are all alleged by Dr. Conolly as proofs of the superiority of the gentle plan of treatment. It occasionally happens that patients are brought into the Asylum in severe restraints. They are immediately set free; nor is the restraint ever put on again; yet the patients remain quiet.

In one of the remarkable cases narrated by Dr. Conolly, "a delicate girl, of small stature, and epileptic, was brought to the Asylum in close restraint, her wrists and ankles marked with iron handcuffs and leg-locks." The warm bath and the removal of restraints restored her to ease and content. In her tranquil state, her expressions were those of gratitude and affection; but during the maniacal excitement which accompanied her epileptic fits, her past impressions predominated, and she often fell on her knees and entreated that no one might be allowed to come and tie her down. She has now been managed for five months entirely without restraint.

What was once an experiment is now a successful system, and the wards of a lunatic asylum need no longer be a place of terror to the most sensitive visitor. Kindness, which performs miracles everywhere, which, like the sun in the fable, penetrates those rugged coverings that wind and storm did but apply more closely—kindness is the "open sesame!" to the heart of the insane, and is a therapeutic agent at once to body and mind.

(*Editorial Remarks,*) *Medical Gazette, Dec.* 30, 1842, *p.* 485.

Mr. Solly, in a letter to the editor of the Medical Gazette, after reading the above remarks, says:—At 11 o'clock at night, on Saturday, the 5th of November, I visited the wards of the Asylum with Dr. Conolly. There were then, I believe, exactly 948 patients in the house, and not one of them under personal restraint. We went into every ward, and, with the following exceptions, there was not a sound to be heard. Two women, each in different parts of the house, were chaunting or singing in a low tone, just audible; a third was talking violently, but ceased before we left the ward; and one man made use of a violent expression as we passed him. To me it is perfectly astounding that such a death-like stillness should reign in a house containing nearly a thousand lunatics. I shall never forget the impression it made, and the reflections it gave rise to in my mind. *Ibid, Jan.* 13, 1843, *p.* 576.

42.—ON EPISTAXIS....By John C. Davie, Esq., Haddingham.

[In our last volume (Part VI, Art. 42) we gave the simple means of correcting hæmorrhage from the nose, as recommended by Dr. Negrier. It consists in simply holding up one or both arms so as to take off part of the arterial force from the carotids, and at the same time closing the nose. The subjoined case is published in confirmation of this practice.]

Richard Cuttriss, æt. 32, a miller, (Oct. 24th), for the last fortnight felt giddiness, and heaviness of head, and this morning was seized with bleeding from the right nostril, which continued for some time. Cold applications to the head, nose, and elevated position. Ordered the following:—

℞ Magn. Sulph. ʒvi.; Acidi Sulph. Dil. ʒij.; Infus. Ros. C. ℥vi. S. ʒj; 4ta q.h.

25th.—Hæmorrhage again returned from both nostrils to an alarming extent: both arms were raised above the head; nares compressed; and in less than two minutes the eruption of blood was completely suppressed. As a precautionary means of avoiding danger, the elevated position of upper extremities, and pressure to the affected parts, were had recourse to for some time after, and I am pleased to say, with the happiest result, the effusion not having returned. The patient stated he had ten different attacks of bleeding; supposed he had lost in

the whole a gallon of blood: upon the last occasion he lost more than a quart, besides what was swallowed. For some days after his head was not free from uneasiness, and bowels constipated. Relieved by resinous aperients, and he has resumed his occupation. *Medical Gazette, Dec. 2, 1842, p. 326.*

43.—NEW MODE OF MAKING A FERRUGINATED PILL OF MERCURY.

By Dr. Collier.

[In Dr. Collier's second edition of the London Pharmacopœia, he gives the outline of a formula for preparing blue pill with sesquioxide of iron. It is as follows:]

℞ Ferri sesquioxydi, ʒj.; Hydrargyri, ʒij.; Confect. Rosæ Gallicæ, ʒiij. Contere donec globuli non amplius conspiciantur.

It is made in five minutes; common blue pill demands a week. The globules are not visible, even by the microscope. It is uniform in its appearance and effects. It makes a smoother pill, retaining its form more permanently. It salivates in a few days in the usual doses. The presence of the iron prevents the wear and tear of the human body under the effects of the mercury. It is particularly eligible for the strumous, the irritable, and for reduced anemial constitutions requiring mercury. The powers of life are not so much (scarcely at all) prostrated under its use. Its resolvent power is greater than that of mercury alone, especially with respect to buboes. Practitioners will at all events know what they are using; at present they have for blue pill all manner of alloys and sulphurets—mercurial-zinc pill, mercurial-sulphur pill, &c. &c. &c. Five grains of sesquioxide will suffice to amalgamate and divide a large quantity of mercury, but I propose the larger proportion as a remedy.

Lancet, March 24. 1843, p. 879.

44.—TREATMENT OF INCONTINENCE OF URINE.

Dr. Steinbeck, of Brandenburgh, administered ergot of rye to two women recently delivered, in whom incontinence of urine had been induced by paralysis of the sphincter of the bladder from pressure during labour. The internal administration of this medicament, coupled with the external use of an embrocation containing tincture of cantharides over the hypogastric region, having been followed by complete success in a few days, Dr. Steinbeck entertained the idea of employing the ergot for similar affections in the other sex. Accordingly, to three old men, in whom sudden chill had brought on incontinence of urine, he prescribed the following mixture:—℞. Ergot of rye, half a drachm, water, six ounces; boil for five or six minutes, and add of belladonna leaves fifteen grains. Suffer the infusion to stand till cool; strain, and add of phosphoric acid (medicinal strength), two drachms, extract of nux vomica, four grains, syrup of manna, one ounce. Mix, and take a tablespoonful every two hours. The patients improved in health, and after a few days the above mixture was superseded by the following:—℞. Extract of belladonna, three grains; extract of nux vomica, four and a half grains; phosphoric acid (medicinal), an ounce. Mix and take fifteen drops three times a-day. The treatment in each case was successfully concluded by a course of tonic with stimulant remedies.—*Medicinische Zeitung.*

*** The ergot of rye may certainly have been efficacious in the treatment of the latter cases, but we believe no small share of the success derived to have been due to the strychnia present in the extract of nux vomica.

Ibid, March 4, 1843, p. 838.

45.—THE ECHOMETER.

A talented young physician, Dr. Aldis, has invented this instrument for the purpose of percussion, for which it seems well adapted. It may be procured at Savigny's. The percussor is attached to one end of a lever handle, which is fixed on the shaft of the instrument, like the lever in Assalini's tenaculum. A screw under the lever handle regulates the depth to which it can be depressed, and consequently the height to which the percussor can be raised at the other end, as well as the force of the blow from the percussor. Equal sounds are

consequently produced. The instrument is a very ingenious, and likely to prove a very useful one to auscultators.

Medico-Chirurgical Review, Jan. 1843, *p.* 286.

46.—NURSERY TREATMENT OF INFANTS....By JOSHUA WADDINGTON, Esq.

[The following judicious directions were submitted to Prince Albert:—]

No other kind of milk to be given to an infant in addition to the milk of the mother or wet-nurse. The less rocking the better. When asleep, to be laid upon its *right* side. The best food is "Lemann's biscuit-powder," soaked for twelve hours in cold spring-water, then *boiled* for half an hour, not simmered, or it will turn sour. Very little sugar to be added to the food, and then only at the time *when given.*

Sweets, of every kind, are most injurious, producing acidity, flatulency, and indigestion, sores in the mouth, and disordered secretions. An infant will take medicine the more readily if made lukewarm in a cup placed in hot-water, adding a very little sugar *when given.* The warm-bath (at ninety-four degrees of heat, *not less*, for *ten* minutes, every other night) is a valuable remedy in many cases of habitual sickness or constipation.

"Soothing-syrup," sedatives, and anodynes, of every kind, are most prejudicial. They stop the secretions. A very small dose of laudanum given to an infant may produce coma and death. When an infant is weaned, which is generally advisable at the age of nine months, it is of the utmost importance that it be fed with the milk of *one cow*, and *one only* (a milch-cow), mixed with "Lemann's biscuit-powder" (prepared as before directed) and *very little sugar.*

Boiled bread-pudding forms a light and nutritious dinner, made with stale bread, hot milk, an egg, and very little sugar. When an infant is twelve months of age bread and milk should be given every night and morning: stale bread toasted, soaked in a little hot-water, and then the milk (of *one cow*) added *cold.*

Solid meat is not generally required until an infant is fifteen months of age, and then to be given sparingly, and cut very fine. Roasted mutton, or broiled mutton-chop (without fat), is the best meat; next to that, tender *lean* beef or lamb; then fowl, which is better than chicken; no pork or veal; no pastry; no cheese; *the less butter the better.* An infant should not be put upon its feet soon, especially while *teething*, or *indisposed. Avoid over-feeding* at all times, more particularly during *teething.* It is very likely to produce indigestion and disordered secretions, the usual *primary causes* of convulsions, various eruptive complaints, and inflammatory effections of the head, throat, and chest.

Lancet, Dec. 24, 1842, *p.* 471.

47.—ON THE TREATMENT OF HYSTERIA BY MEANS OF ERGOT OF RYE.

In two varieties of hysteria, M. Nardo has found the internal administration of the ergot of rye followed by the rapid removal of the disease, viz. in that seeming to depend on simple atony of the genital system, and in that depending on atony of the nervous and genital systems. His practice consisted in administering about a scruple of the ergot with sugar in divided doses each day, intermitting the dose every third or fourth day. A number of cases are shortly related proving the efficacy of the practice, the hysteria and the irregularity or absence of the menstrual secretion being removed at the same time.

Edinburgh Medical and Surgical Journal, Jan., 1843, *p.* 225.

48.—MEDICINAL EFFECT OF MANGANESE.

Dr. Krigeler, an Austrian practitioner, having remarked that many workmen who were previously affected with glandular swellings and cutaneous diseases, had by degrees got rid of those affections while employed in a bleaching factory in which oxide of manganese was used, has since employed the latter substance for the cure of such complaints with the happiest results. Its administration to children with scrofulous enlargements of the glands, in doses of one to five centigrammes (one-seventh to three quarters of a grain), has been found in a very short time to be attended by a diminution of the swellings, which

have eventually disappeared altogether under the use of the medicine.—*Oester Med. Jahrb.* *Lancet, Dec.* 31, 1842, *p.* 493.

49.—PREPARATIONS OF IRON.....By M. BERAL.

Experiments undertaken for the purpose of rendering more perfect the preparations of iron used in medicine, have led me to the discovery of several ferruginous products not yet studied, or but little known. I shall make known the more prominent properties of these products, so as to complete what I have already published on ferruginous compounds in general, and on the citrates of iron in particular. *Sesquicitrate of Iron.*—The citrate of the sesquioxide of iron is obtained in transparent laminæ, of a beautiful garnet hue. *Protocitrate of Iron.*—The citrate of the protoxide of iron is prepared by treating iron filings with citric acid previously dissolved in distilled water. This salt is white and pulverulent, and but slightly soluble. It is rapidly coloured by light, and by the action of moist air its composition is modified, the iron passing to a higher degree of oxidation. This citrate, like the other protosalts of iron, has a strongly marked chalybeate taste. *Citrate of the Magnetic Oxide of Iron.*—Combined with the magnetic oxide of iron, citric acid furnishes an uncrystallizable salt, of a green colour, and susceptible of being formed into transparent laminæ. This salt is soluble and very active, but as its taste is decidedly chalybeate, it is on this account objectionable for internal use. It is remarkable, that its solution does not alter, but preserves its green colour, although exposed to the prolonged action of the atmospheric air. *Citrate of Iron and Quina.*—The citrate of iron and quina is a new salt, which was required as a therapeutic agent. This medicine is formed by the combination of four parts of citrate of iron, with one part of citrate of quina. It is obtained in the form of transparent laminæ, soluble, very bitter, and of a garnet hue. This salt is best adapted for administration in the form of pills, on account of its great bitterness.

SYRUP OF TANNATE OF IRON.

Take of simple syrup, 375 parts; syrup of vinegar, 125 parts; citrate of magnetic oxide of iron, 10 parts; extract of galls, 4 parts. Mix and form into a syrup.

The iron in this preparation is in the state of the magnetic oxide united with an acid. It is soluble, tasteless, and susceptible of useful applications.

Medical Times, March 11, 1843, *p.* 366.

50.—AQUA CHALYBEATA.

Messrs. Bewley and Evans, of Dublin, have introduced a preparation of iron under the above name. It contains 13 grains of the citrate of iron in 6 ounces of the mixture. They recommend it on the following grounds: "1. The salt of iron, the citrate, to which it owes its efficacy, possesses *permanency of composition*, not being liable to be decomposed by the influence of the atmosphere, and is uniform in its action on the animal economy. 2. It is *perfectly soluble*, is not subject to be precipitated when taken into the stomach, and is therefore readily and quickly absorbed into the system. 3. It is not characterised by the *astringency* possessed by the sulphate and chloride, and therefore does not produce the constipation of the bowels, which so frequently results from the administration of those salts. 4. It is *more agreeable to the taste* than the other preparations of iron; and being combined with the grateful aromatic of the orange kind, it will be taken freely, and with pleasure, by patients who are often with difficulty persuaded to swallow such nauseous draughts as the Mist. Ferri. Aromat., Mist. Ferri. Comp., &c. 5. Being administered in water highly impregnated with carbonic acid, the salutary tonic properties of this gas are combined with those of the iron. The preparation is thereby rendered *more grateful to the stomach*, as well as more acceptable to the patient, and is assimilated to the esteemed waters of chalybeate springs."

Lond. and Edin. Monthly Journal of Medical Science, Jan., 1843, *p.* 78.

sary to take them up by separate ligatures, one end of each being brought outwards with the main ligature of the pedicle. I now passed my hand round the tumour in search of adhesions; three or four of very recent character presented themselves, which gave way to the slightest touch of the fingers, and required no scalpel for their separation; but on the upper surface of the tumour, higher than the umbilicus, and on the patient's left side, an omental adhesion, spreading for some space on the tumour, showed itself; this I separated with the scalpel, when a small vessel poured out blood freely, which I secured, and cut the ligature off close. My friend, Mr. W. C. Vaudrey, had now held the tumour raised for some time, to facilitate my search for adhesions. When all appeared clear, I placed my hands in the iliac regions, and assisted him in raising the huge mass fairly from the abdominal cavity, in doing which a considerable force was required, as the pelvic portion of the tumour filled that cavity so completely that it felt similar to the attempt of pulling off a well exhausted cupping glass from some fleshy part of the body. Dr. Radford and Mr. Vaudrey paid every attention to the patient, and gave her a tea-spoonful or two of brandy and water, while I immediately but temporarily brought the parietes of the abdomen together; Mr. Nursaw and Mr. Southam, kept them in their position, and I continued to sponge the lower part of the incision, as long as any fluid showed itself, which was chiefly the remains of the ascitic deposit, slightly tinged with the little blood that had been lost in securing the vessels of the pedicle. Long as this account may appear, the time consumed up to this was only twelve minutes and a half, and (as I had no ambition of making it a bloodless operation) about fourteen ounces were lost, rather more than in all probability would have been, in consequence of one of the ligatures missing its hold; but, after all, no more than, in my opinion, benefitted the patient afterwards. The integuments were brought together by nine stitches, and straps of adhesive plaister between each, with long straps over the ends of the cross straps; and two long pads of linen were laid on either side of the incision, and over all a stout bandage of some breadth. My patient was then carefully lifted into bed, about forty-five minutes from the commencement; cheerful, and complaining only of a pain about the last lumbar vertebræ and the right iliac region, which I attributed to the extension of the pedicle during the operation, which, though as little as possible, it was *impossible wholly* to avoid.

[The tumour weighed 17lbs. 5 ounces, apothecaries' weight, and its largest circumference was 3 feet 8 inches, its shortest circumference 2 feet. It will not be necessary to detail the subsequent treatment, which was very simple and exceedingly judicious. We will conclude this case by giving Dr. Clay's general observations.]

General Observations.—Thus terminated successfully, not only this formidable operation, but its subsequent treatment. A more satisfactory issue could not have been anticipated by any person who witnessed it; the simplicity of the treatment throughout was remarkable: procuring evacuations of fæces and urine when it was thought the parts were overloaded; and a few hours sleep occasionally, when the case appeared to require it, were the only means put in practice; as little medicine as possible was exhibited for evacuations from the bowels; clysters were preferred to any purgative, and emptying the bladder, until natural efforts were able to accomplish the same. In procuring sleep common opiates were avoided, in consequence of their tendency to constipation. The tinct. hyoscy., and the mur. morphia, given in combination, had the best effect, but even those were given as seldom as possible. I am of opinion that nature is capable of effecting more than she obtains credit for; and the less we interfere with her the better. I am the more convinced of this, by the plans of treatment adopted by others, particularly in the minor operation (proposed by Mr. Jeaffreson) in the case treated by Mr. Phillips, reported in the Medical Gazette, vol. 1. 1840–41, p. 83, and which, in my opinion, was far too complicated. It will also be observed that I did not exhibit a brisk cathartic before the operation, as recommended by Mr. Lizars. I dissented from this plan, simply because I considered the operation of cathartics as producing a degree of irritation which I felt wishful to avoid: I therefore substituted the inspissated ox-gall, which

extensive experience has pointed out to me as an excellent solvent of the fæcal matter of the intestinal canal; and by the solution its propulsion is facilitated without producing the slighest irritation. This remedy appears also to have a peculiar effect of ridding the intestines of flatus, a matter of great consequence in such an operation, and it was in this case remarked by many medical gentlemen present, how void of flatus the intestines were; by which the operation was very much facilitated. In applying more interrupted sutures than Mr. Lizars, I merely adopted a hint thrown out by that excellent operator, that it was better to have plenty than too few; which, with the precaution of marking the parietes cross-ways with nitrate of silver previous to the operation, rendered eversion of any part of the incised wound impossible. Why the incision should not pass directly through the umbilicus, may be asked with propriety? My own opinion is, and probably it was the opinion of Mr. Lizars, that the wound would be less inclined to heal (if through the umbilicus). In the case just related, the last part to heal, with the exception of where the ligatures passed outwards, was in the vicinity of the umbilicus. In all operations of this kind, however, I should keep strictly to the linea alba, except at the umbilicus, which I would leave to the right or left about half an inch, coming to the linea alba again as soon as possible. So long as the dressings continue in good condition, there ought to be no hurry in removing them. In this case, the fifth day had concluded before the first dressings were taken off, and then with great caution, lest the patient might take cold; it is therefore necessary that the temperature of the room should be attended to at the time, as well as in subsequent dressings, as there is considerable exposure. On examining the tumour after its extirpation, the portion lying in the pelvic cavity was in a state of ulceration. It was therefore fortunate the operation took place. Had it been delayed, the result might not have been so satisfactory; and as the weather began to be cold about the 21st of September, an artificial temperature must have been substituted, which might not have been so easily manageable, particularly as the operation was performed in a small cottage room, where the least inattention might produce a great alteration in the temperature. On the morning of the third day after the operation, flatus became troublesome for the first time, which was effectually removed by the introduction of an elastic gum tube a few inches up the rectum; a plan which I should earnestly recommend as effectual without producing any irritation. In expelling the flatus, as well as the clysters, considerable assistance was given by a six-tailed bandage, crossed over the abdomen, imitating the action of the abdominal muscles. The most rigid principles were adopted as to diet, and on this, I consider, much of the credit of the cure depended. I was of opinion that in such cases the principle of stimulants, whether as medicine or diet, was injurious; I therefore adopted the simplest matters for food and drink I could think of. Boiled bread, bread out of toast water, toast water, gum mucilage, thin arrow root, gruel, and German rusks softened in toast water, were rigidly enforced for the first six days; and up to the twelfth day, only boiled rice, a little milk added to the arrow root, and a little weak tea were added; so that my patient complained more of being starved than otherwise. When I look back at the many circumstances which might be deemed unfavourable in the case here recorded, I am the more convinced of the propriety of this operation in preference to the minor one proposed by Mr. Jeaffreson. My patient was old, the period of cessation of menstrual discharge, with its many bad consequences, (though it had not taken place) might reasonably be expected to interfere with the cure: adhesions existed; the tumour was large; the pressure had produced ascites; ulceration had commenced in the pelvic mass; there was one large cyst, combined with six or seven smaller ones; the cysts were also combined with nearly seven pounds of a consolidated mass of cartilaginous and fibrous texture; and lastly, my patient was worn down by long disease, emaciated, and distressed in spirit, before relief was proposed by an operation. In these symptoms there are some points so decidedly opposed to the mode of operation as proposed by Mr. Jeaffreson, that I cannot avoid drawing a comparison. If it were positively certain that the ovarian tumour was composed of only one, two, or even three cysts, provided they could be defined and punctured; if it were

equally certain that no adhesions existed beyond the pedicle, and if we could be assured that no part of the tumour was consolidated; then I should say that the minor operation of Mr. Jeaffreson would be the only justifiable one; but if any one of those objections exist, I am decidedly of opinion that we had better let the patient alone. The fatality shown by the results of those operations in almost every person's hands, with the exception of Mr. Jeaffreson, and once by Mr. King, fully justify the remarks I have just made upon it. It would be difficult to puncture more than one cyst; it would be impossible to draw the cyst through a small opening if adhesions existed, without doing irreparable mischief; it would be equally impossible to extract through a small opening unpunctured smaller cysts, or a portion of consolidated tumour.* The question then is, Are these objectionable points frequent? Mr. Phillips says, "That more than one cyst may exist in the same tumour at the same time, cannot be denied; but although it may be, it is rarely the case." I am afraid this conclusion has been drawn too hastily; the number of cases of punctured ovarian cysts, is too few to warrant too general a conclusion: the case I have here reported is contradictory to this view. Two of the cases of Mr. Lizars had more than one cyst, and from specimens of post-mortem extraction of diseased ovaria, I believe the fact of more cysts than one in the same tumour, to be more common than Mr. Phillips supposes. I think he would have been more correct in stating, that generally there is one very large cyst, and more or less smaller ones. Again, Mr. Phillips observes, "*The co-existence of a solid tumour and a large cyst, I do not deny that it may happen, but I do maintain it to be a rare exception.*" In my case the solid part of the tumour was equal in weight to the saculated part with its contents. I have a post-mortem specimen where the solid part is equal to the sac. Some of Dr. Macdowal's cases, as well as Mr. Lizars', I believe, possessed similar features. Last, Mr. Phillips asserts, "*That adhesions are not frequent.*" On the contrary, Dr. Seymour, in his excellent work, states, that adhesions exist in ninety-nine cases out of the hundred. Both assertions, perhaps, are too much in the extreme; but one more moderate might have been made, *that adhesions very commonly exist;* I have never yet seen a case entirely free from them. Now let the reader suppose a case of more sacs or cysts than one or two, or of one with a large consolidated mass, with or without cysts, or one with adhesions, though not extensive, and then let him imagine himself employed in bringing this tumefied mass away by dragging it through a small opening of one and a half or two inches. I certainly should not envy his position; the tearing asunder of these adhesions, the difficulty of puncturing a number of cysts, the tearing and enlarging the outward incision by the force required, and lastly, the impossibility of bringing such a mass through so small a space; all of these, or any one of them existing, or the bare possibility that such might exist, is sufficient to condemn the mode of extraction by small incision; and how are we to know that these do not exist? Every person who has paid attention to the subject, knows how very obscure the symptoms of ovarian disease are, and how very difficult it is to form a correct diagnosis as to the partic-

* [Mr. Jeaffreson states that Dr. Clay is in some measure mistaken as to his views respecting this operation. He says, "It was never my intention to advise any simple operation for ovarian dropsy in cases of enlarged and diseased ovaria, as described by the doctor; but as my previous painful experience consisted of nearly twenty fatal cases, occurring in my own and in the practice of others, I lost no time in making the members of the Provincial Medical Association acquainted with the facts of my first case, by reading them a short paper on the subject at their next meeting, and which is published in the fifth volume of the Transactions. The subject of this case is now in good health, and has been pregnant three times since the operation, and given birth to three healthful children. I have since witnessed a successful operation by Mr. King, of Saxmundam, and another by my friend, Mr. Crisp, of Harleston, Norfolk. The lady, the subject of the last-mentioned case, had been 23 years suffering from the disease, and had been twice tapped. Three gallons of fluid were taken from the cyst, which was then removed without the slightest difficulty; indeed, I would always enlarge the wound, should difficulty occur at this period of the operation, rather than make use of violent traction, and, should the circumstances of the case require it, this operation might be converted into the formidable one recommended by Dr. Clay. This lady perfectly recovered, and has enjoyed several years of health since the operation. Mr. West, of Tonbridge, has likewise published several successful cases: therefore I think Dr. Clay must be wrong in his estimate of the comparative success of the two operations."—*Medical Times, Jan.* 14, 1843, *p.* 255.]

ular state of the tumour; adhesions have been found where none were anticipated, and they have been absent when confidently expected. It is often difficult to say to which side the pedicle is attached, equally difficult to say if the tumour contains one or more cysts, and impossible to tell if any part of the tumour be consolidated or not. By the large incision, whatever difficulty presents itself, we are prepared for it; it matters not which side the pedicle may be; there is plenty of room for cutting asunder the adhesions, however numerous; the whole mass may be removed entire without puncturing the cysts, thus avoiding the disagreeable circumstance of the fluid of the cysts escaping into the abdominal cavity, perhaps one great cause of death in the minor operation; and lastly, we have now abundant proof that peritoneal inflammation is not a whit more excited by a bold opening, than by a smaller one. It must also be borne in mind, that the tearing away of the adhesions, *unless very recent ones*, is entirely avoided by the operation of the large incision.

The principal opposition to the large incision, as practised by myself, Mr. Lizars, and Dr. Macdowal, consists of prejudice, and too much dread in making openings into the abdominal cavity; but time and a few more successful cases will soon overcome both the prejudice and reluctance of surgeons on this subject, and if I am not mistaken, a new era is opening upon us, as to operations on the abdominal and pelvic viscera. One thing is certain—we can make an opening of any extent, and explore the viscera without any more danger of inflammation than *might follow* the most trifling puncture of the peritoneum. For myself, I feel I should be justified in making extensive incisions into the abdominal cavity, for other objects than the one here related. I would ask what should prevent the spleen from being extirpated when diseased? Or fatty tumours of the omentum? Or tumours of the fundus uteri? In fact, what has been done, is enough to enable me to declare the large incision operation for extirpating the diseased ovaria, *a perfectly legitimate operation;* more successful than the one proposed as its substitute, and, that ere long, operations will be performed on the abdominal regions, hitherto unknown in operative surgery, and with safer results than heretofore. The celebrated Lizars says, "*On considering the nature of serous membranes, it appears they are less prone to inflammation than cellular tissues which are more confined, or shut up. The exhalation which is perpetually going on seems to moderate action, which is strikingly illustrated by dropsy of the tunica vaginalis testis, where the greatest difficulty is experienced by the surgeon in producing inflammation sufficient for adhesion.*

After operations of this nature, the danger is in the first twenty-four hours; first from hæmorrhage from the secured vessels, and secondly from peritoneal inflammation, which can easily be checked if bleeding be timely resorted to; but *if neglected*, death is almost certain. In my case the pedicle was rather thick, and the only drawback attending this, is, that the ligature may not be sufficient to stop the bleeding of the vessels contained in it for supplying the tumour, and thereby requiring ligatures on the vessels themselves.

In respect to the connexion of ascites with ovarian disease, Mr. Lizars remarks: "Again, diseased ovarium is frequently accompanied with ascites; so that in our treatment, when we are aware that there is ascites, and suspect a diseased ovarium, *we should first perform paracentesis abdominis.*" I am inclined, however, to differ in opinion with this celebrated surgeon, believing that peritoneal inflammation would be more likely to occur from the operation by incision and consequent exposure of the viscera, *if paracentesis abdominis had been previously performed;* because some excitement of inflammatory action would have occurred in healing the tapping wound, which, though it might be slight, still might the more easily be excited again. *I think it therefore safer to perform the operation of extirpation at once, allowing the ascitic fluid to come away at the same time.* In the case of paracentesis abdominis which I have just mentioned, I certainly should not have performed that operation had I been positively certain of the existence of a tumour; but as neither the history of the case, nor present examination, pointed out such a circumstance as probable, I acted accordingly. The case of Mrs. Wheeler bears out the fact as already advanced by Mr. Lizars, that the most formidable adhesions to be met with in

ovarian tumours, are omental; in this case, a vessel of moderate size was so connected with the tumour, as to require securing when cut asunder. The pedicle, as I expected from the history of the cases of various authors, I found to be simply the broad ligament of the uterus, which, with the fallopian tube, were of considerable thickness, so much so, as to interfere with the security of the vessels contained in it to supply the tumour, requiring them to be separately secured; this, future operators should carefully bear in mind. Mr. Lizars also recommends, if the long incision give not room sufficient for the tumour to be extirpated, to make a transverse incision. *I presume he means towards that side where the pedicle is expected to be found.* I am not prepared to say whether this be necessary, but am inclined to think that there is no tumour capable of being held within the parietes abdominis, but what might be extirpated through an incision from the ensiform cartilage to the pubes.

Looking at all the circumstances connected not only with the operation by large and small incision for diseased ovaria, but in all operations that have taken place in respect to the abdominal cavity, where the peritoneum has been cut, there is abundant evidence to prove that the peritoneum is not by any means so disposed to take on inflammatory action as has been generally supposed, and this simple fact in itself may create a great change in abdominal surgery. Hitherto extirpation of diseased ovaria, by the large incision particularly, has been held as highly speculative and improper; but surely the results that can now be shown, must at once and for ever settle the question, and establish it as a perfectly legitimate and more than ordinarily successful capital operation, as I shall more distinctly prove at the conclusion of this paper, that is, if medical statistics are to be relied upon at all. When compared with the results of other capital operations, lithotomy, lithotrity, and even amputation, it stands in a far more favourable position, and it is a very strange prejudice indeed, that can admit those capital, and more frequently fatal operations above mentioned, *as legitimate and advisable*, while one less fatal is summarily condemned, and forborne to be mentioned in the instructions to the rising faculty. I think I have said enough to prove that preference ought to be given to the operation by large incision for the extirpation of diseased ovaria, the very great obscurity hanging over the many circumstances connected with the tumour are only to be met by the free incision. To attempt the minor operation and meet with those features *known to be frequent*, must compel the operator to resort to the large incision under the unfavourable circumstances of a partly emptied tumour, fluid escaped into the abdominal cavity, and adhesions lacerated, or the dreadful alternative, death to the patient without an attempt to relieve.

It is to be hoped that the prejudice hitherto existing against this rare and formidable, but successful operation, will cease; and that it will in future be classed where its merits have proved it to be worthy.

[Dr. Clay's second case was that of Elizabeth Berwick, æt. 57. The abdomen was distended with fluid, which, on being evacuated by tapping, left an ovarian tumour about four pounds in weight. Before the operation the usual dose of inspissated ox-gall was given, and the operation was then performed in the same way as in the preceding case. Dr. Clay ends this case by the following remarks:]

Additional general observations.—The success of this second case cannot but be admitted as more remarkable and conclusive than the first. The advanced age of my patient, the numerous adhesions, the extensive ascitic deposit, and worn down constitution, offered but slight prospects of recovery; still the depression of her mind, and the inconvenience of a burthen accompanied with great pain, coupled with the positive assurance that her case was perfectly hopeless, rendered even the smallest chance of life by operation very desirable. Under such circumstances, then, the proceeding was justifiable, and her perfect and rapid recovery only tends to confirm the views I have before expressed in respect to this operation. In my mind I feel convinced that in very many instances of apparently incurable ascites, ovarian disease has previously existed, which in fact is the exciting cause of the ascitic deposit. This second case also proves the value of the simplest mode of treatment. One dose of mur

morphine immediately after the operation, two aperient doses of inspissated gall, and two clysters, being the whole amount of medical assistance; except the most rigid attention to diet prescribed, an equable temperature, and perfect quietness. Mr. Lizars attributes his success in the after treatment to timely bleeding, and certainly I believe there is little good to be done without it; the pulse must, however, first indicate the necessity for it. In this case no blood was taken, the pulse never being otherwise than soft, and easily compressible; perhaps her advanced age might account for the want of energy in the circulatory powers; another proof of this was the remarkable fact already alluded to, that the pulse did not vary one stroke after the operation from what it was before. The tumour was freely injected with blood vessels; yet no vessels, either in the pedicle or in any of its adhesions, required the ligature; and the blood lost during the operation was very trifling, certainly not two ounces. Throughout the case there was an extensive secretion of urine, which at all times passed without the assistance of the catheter. I did not interfere with her habit of smoking, as she had been long accustomed to it, and seemed to derive a little pleasure from the indulgence. In both these cases the ligatures connected with the pedicles were brought out at the very lowest point of the external incisions; those of Mr. Lizars were (it appears from his plates) brought out about midway between the umbilicus and pubes. This is a matter of mere choice; for my own part I fancied the ligature would interfere less with visceral movements by being brought out lower than otherwise, which was my reason for adopting it. It is impossible to reflect upon the nature of these cases without admitting how very improper it would have been to put in practice the recommendation of Mr. Jeaffreson. The adhesions and solid parts of the tumours would have rendered such a mode impracticable; and the exposure of the viscera with the effects of a large incision, are not more dangerous than a mere puncture without exposure, now, beyond a doubt, abundantly proved by the cases of Dr. Macdowal, Mr. Lizars, and myself. When the prejudices against the operation shall have subsided, there exists not a doubt but that it must, as a matter of necessity, be admitted as a perfectly legitimate operation, and justifiable in every stage of diseased ovaria. It is to be hoped, too, that these operations will convince surgeons that the great fatality attending many capital operations, where *the peritoneum is concerned*, consists in driving the case to extremes, by adopting various modes of relief, *which failing*, produce greater *peritoneal irritation* than when the knife is made use of, and fatal inflammatory action is often the result. I feel little doubt in attributing many deaths, subsequent to operations on the peritoneal sac, not to the undue interference with the knife, but to the means put in practice before the knife is resorted to, for instance, the manipulations of taxis in hernia. Take the peritoneum in its quiescent state, the knife can then be used with much less pain to the patient, and those operations, so often fatal, and if successful, so critical in their after treatment, will become seldom fatal and extremely simple in their subsequent treatment. I shall now draw my remarks toward a conclusion; perhaps they may be considered too lengthy; the importance, however, of the cases is such, that the omission of even the slightest particular might be the means of leading others to wrong conclusions. For those who may not have leisure to attend to it, I have thought proper to add a statistical account of such cases as have been treated by both operations, spoken of in these remarks, and which I hope will speak volumes in favour of the large incision.

Small Incision, as practised by

Dohlhoff,	Germany,	1 successful, 2 fatal.
Jeaffreson,	Ipswich,	1 successful.
King	Saxmundham,	2 successful, 1 fatal.
West	Tonbridge,	1 successful.
Phillips,	London,	1 fatal.

Total, 5 successful, 4 fatal.

Out of the five successful cases, two, viz., one by Dohlhoff, and one by King, were cut merely, there *being no tumour*, consequently no violence was done to the viscera, the cases being those of simple scalpel wounds.

The Large Incision and Extirpation, as practised by

L'Aumonier,	France	1 successful.
Dr. Smith	Connecticut	1 successful.
Dr. Macdowal,	Kentucky	3 successful.
Mr. Lizars	Scotland	3 successful, 1 fatal.
Dr. Clay,	Manchester	2 successful.

Total, 10 successful, 1 fatal.

One of these successful cases was cut down upon, but no tumour was found by Mr. Lizars. At the same time it ought to be stated that the fatal case (also by Mr. Lizars) had previously suffered from an attack of cholera, which, with equal probability with the operation, might be considered as the cause of death.

I have now faithfully detailed my own cases, and, as far as I could obtain them, th epractice and opinions of others. I have endeavoured to show, without prejudice to either, the comparative value of both operations. The puncturing of ovarian sacs I have not entered into, simply because it is not a curative agency, but merely a means of temporary relief to be followed by still greater sufferings, with the certain prospect of a fatal termination. Even simple puncturing has been fatal in more instances than one. I am averse to puncturing, because it offers no hope of ultimate cure, and because at the places punctured adhesions are effected, and by the alternate distension, and collapse of the sac, fresh adhesions are also formed in other parts.

The number of adhesions, however, can be overcome by the large incision with great ease, and experience tells me the patient may recover from the separation of them, however numerous, and that without a bad symptom even in an aged person. But such adhesions, or even a suspicion that they may exist (and I venture to say no man can tell where they are not to be met with before operation) must at once condemn the small incision operation. Time, and a few more opportunities will settle this question, I am confident, in favour of the large incision. To have room to be enabled to see that no unnecessary mischief is done, is the true principle of the large operation. Lastly, the being enabled *to see* the state, not only of the parts contemplated to be extirpated, but the connecting viscera, and that *in time to retrace our steps if necessary*, with having only the simple incision to heal again, is a circumstance that cannot attend the minor operation.

[Several other cases are next related, some of which were unsuccessful; but in general, this important operation has been more successful than its formidable character would lead us to suppose.]

Concluding remarks.—After much reflection, I have no hesitation in stating my conviction that the extirpations of ovarian encysted tumours may be performed with comparative safety. And if the age be not too advanced, I believe the cases I have here given will fully prove that neither extent of adhesions, size of tumour, ascitic deposit, worn down constitution, nor peritoneal inflammation, should prevent extirpation being performed. The success of the operation is more than equal when compared with other capital operations in surgery. I would not advise, however, the peritoneal section so confidently in other tumours of the abdomen; still it is at all times a justifiable course where the patient earnestly requires it, and no other hope of prolongation of life presents itself. The exposure of the abdominal viscera, if the room be moderately heated, is attended with no bad consequences, nor yet a moderate loss of blood during the operation. The principal pain is confined to the first incision through the skin, and to the stretching of the pedicle while it is secured and severed. If the ligature is not drawn very tight, it will be much longer in coming away. I find it better *not* to let the interrupted sutures remain too long. I take every other out the third day, and the rest the day after, or at longest the fifth day. Thus much unnecessary irritation is avoided. Pain, after operation, is always controllable by a grain of mur. morphine. Some days after the pressure is removed from the abdominal viscera, there appears to be a tendency to diarrhœa, which, if not closely watched, and timely checked, may soon undo all the good that has been accomplished. Mere debility, arising *from the ovarian disease only*, before the operation, is more favourable than otherwise, and affords

a good safeguard against peritoneal inflammation. I cannot conclude my remarks without correcting the statistical account of these operations as given in the preceding remarks, rendered necessary by additional operations.

Large incision, 3rd., by Dr. Clay, successful; 1 by Mr. Walne, do.—Total 12 successful, 1 fatal. Jeaffreson, small incision:—1 by Dr. Stilling Cassel, fatal.—Total, 5 successful; 5 fatal.

The above operations were for diseased ovaria only, in addition to which may be recorded two cases of anomalous and uterine tumours, of a very malignant character, which were attempted by the large peritoneal incision by myself, both of which proved fatal, the first from causes already mentioned, the last from the shock of the operation. I now leave the matter to the candid consideration of the profession, hoping those prejudiced against the operation, will examine fairly before they condemn. *Medical Times, Vol.* VII, *Nos.* 160—164.

[Another very interesting case of this description is recorded in the Medical Gazette for Dec. 23, 1842, p. 437, by Mr. Walne; but as there is nothing particularly different from the cases and operations of Dr. Clay, we need only refer the reader to the paper. We would here also refer to a letter of Dr. Granville to the Editor of the Medical Gazette for January 13, 1843, p. 539, in which he affirms that he performed this operation by the large incision on the 27th of March, 1827, in the presence of several eminent practitioners, whose names he gives. A short account of it was published in the Literary Gazette, March 31. 1827. The abdominal incision was nine inches long, and the tumour larger than the human head, but which in fact, was *not* removed from the abdomen, in consequence of the numerous adhesions which were found to exist: but the extent of the incision and the safe recovery of the patient shew the comparative safety with which such an excision can be made. And we must add, for the sake of the character of this operation, that it would have been more advisable for Dr. Clay, in Mrs. Hardy's case, to have followed a similar plan, and to have closed the incision when he found out the nature of the tumour he had to contend with. In Mrs. Hardy's case, the incision was thirteen inches, "the tumour presented very different appearances from encysted ovarian tumours, it was of a bright pink colour, hard as a piece of boiled liver, and composed of numerous small lobes with acute edges, similar to the lobes of the liver; the whole mass appeared upwards of twelve pounds in weight. I soon discovered, to my mortification, that its attachment was of a very broad character at its base, and highly vascular, no less than the full length of both fallopian tubes, and the greater part of the uterus itself formed a part of the tumour. I had now gone too far to recede, no alterative presented but extirpation of the whole mass." The consequence was what Dr. Clay and every other practitioner must have been quite certain of—the speedy death of the patient. In this case, therefore, we must say that Dr. Clay was wanting in his usual discrimination and prudence; and if the same kind of thing occurs a few more times, it will bring discredit upon the legitimate operation of removing encysted ovaria. If Dr. Clay had stopped short like Dr. Granville, the patient's life would probably have been prolonged, and no one knows better than Dr. Clay the extent to which the peritoneal cavity can be opened with impunity. Except in this unfortunate case, we must say that we have perused Dr. Clay's communication with infinite satisfaction; and we think the profession is under very deep obligation to him for the boldness and accuracy of his manipulations, and for the increased confidence with which we shall hereafter enter on the field of the operative surgery of the abdomen. The following case shews to what extent wounds of this part of body may be carried without fatal consequences. It is related by Mr. Jerrard, of Honiton.]

Caroline Jummerhays, aged eleven years, received a wound from the point of a scythe in June last. The child was running at play, and fell as she passed a mower at work, the point of the scythe penetrating the left side of the abdomen, about three inches below, and the same distance from the umbilicus. I saw her about three hours after the accident occurred, when there was a heap

of protruded knuckles of intestine about the size of a large fist. There was severe retching and a feeble pulse.

Having relaxed the lower limbs and raised the pelvis, I endeavoured with both hands, to enclose and compress the heap of intestine, but could not reduce an inch of it, and during the attempt I could perceive fresh portions of the bowel protrude every time she retched. I then tried to find the wound, which was so completely hid by the overspreading of the heap of intestine, that I could not see any portion of it. I next took hold of a portion of the bowel between the fore-finger and thumb of both hands alternately until I traced it (whether its upper or lower part I cannot tell) to the wound; then, with the point of each fore-finger alternately, I was enabled to return portion after portion, and in about half an hour succeeded, without enlarging the wound, in reducing the whole mass.

The wound, which was about three-fourths of an inch in length, was united by two sutures (which were passed through the cutis only), a strip of adhesive plaster, a compress of lint, and a bandage round the body. A dose of castor oil was given, which operated well in the night. The next morning there was considerable tenderness diffused over the abdomen. She was bled to sixteen ounces. In the evening of the same day, the tenderness continuing, she was again bled to the same amount. After this the case went on well. The ligatures were stripped and removed about the tenth day. A strip of adhesive plaster, a slight compress of lint, and the circular bandage, were continued about ten days longer, when the wound was completely cicatrised.

Remarks.—I do not think that, without enlarging the wound, I could have succeeded in returning the intestine within the abdomen by any other method than that which I adopted. Every attempt to compress the mass seemed to excite the retching, and further protrusion, as stated above, could be distinctly perceived at each effort to vomit. The retching recurred repeatedly during the reduction with the points of the forefingers, but the protrusion could be effectually prevented by the points of the fingers in the wound.

Provincial Medical and Surgical Journal, Feb. 11, 1843, *p.* 391.

52.—CASE ILLUSTRATIVE OF THE VALUE OF LITHECTASY.

By Thomas Elliot, Esq., Carlisle.

[It will be remembered that we referred to Dr. Willis account of this new way of removing stone from the bladder in Retrospect, Part V. (p. 196), where it will be found by those interested in such matters. We are much pleased to see this operation successful in the hands of Mr. Elliot, of Carlisle, and hope that it may be found worthy of more extensive trial by our leading operators. As yet, however, we have seen but little notice taken of it. Before describing this operation as practised by Mr. Elliot, we will once more give the directions of Dr. Willis.]

Let the urethra be opened upon a grooved staff in the mesial line and behind the bulb to the extent of a few lines, as used to be done in the old operation of Dutonnierre, or as Cheseldon did in his last operation, and every objection to the procedure is at once removed. To make such an opening, a lancet, in the absence of an implement with greater fixedness of parts, would perfectly suffice: and the urethra once open, we can dilate to the extent we please if we will but be patient. The vegetable tents of M. Guerin can always be procured, and nicely made would answer indifferently well to effect the needful opening. But an apparatus that is far preferable, that can be controlled to a nicety in its effects, and that is much more powerful than the tent, while its operation is still of the best kind, is the fluid pressure dilator of Dr. Arnott. This is an instrument which consists of a cylindrical tube of silk lined with the thin gut of a small animal to make it water-tight, fixed upon a canula which traverses its axis, and having attached to its outer end a syringe guarded with a stop-cock, by which it may be forcibly distended with water or mucilage. This instrument when empty exceeds but little in size the bulk of the canula or catheter with which it is connected, and is therefore easily introduced along the groove of the staff into the bladder. When there it can be gradually distended to its utmost limits, and being made of so tough a material as silk, it expands evenly and it is not

liable to be burst by any degree of force that can be usefully employed. In Dr. Arnott's original case, thirty hours, during which the urine passed regularly guttatim by the canula, and the patient complained of no pain, but merely of a sense of distension, sufficed to accomplish dilatation to the extent necessary for the introduction of the forceps, and the easy extraction of a stone having the dimensions of a walnut. And this without risk for one moment to the patient! The wound in the perineum is a mere scratch: in itself and immediately it is hardly so dangerous as the puncture that is made in venesection; ulteriorly it can by no possibility be followed by any evil or unpleasant consequence; the urine never even comes in contact with the raw surface—the dilator is introduced, and immediately this fluid, so poisonous to open wounds, finds no passage save through the canula. Before the dilator is again withdrawn, the fresh surface has become covered with coagulable lymph, through which nothing can penetrate; and the stone being removed, the gap might be closed with a couple of points of twisted suture, and the urine made to come away at once by the whole length of the natural passage.—*Retrospect, Part* V., *p.* 196.

Mr. Elliot, it will be seen, has deviated from the above plan "as it appeared to him that any advantage that could be gained by external incisions so very limited as Dr. Willis recommends would be much more than counterbalanced by the inconvenience that might possibly attend the introduction of the dilator, by the difficulty of securing any blood vessel in case it were necessary, and by the additional resistance that would be offered to the process of dilatation and to the subsequent removal of the calculus." The patient, Thomas Irving, aged 17, stone mason, was in otherwise good health at the time the following operation was performed, and the stone was supposed to be of small size. Mr. Elliot procured from Mr. Weiss, of London, a dilator with stopcock and syringe, as described by Dr. Willis, and proceeded to operate as follows:—

The grooved staff was introduced, and the stone felt and heard. The patient was then secured in the same position as for lithotomy, and the different steps were precisely the same as in that operation, until the prostate and membranous parts of the urethra were exposed. The latter was opened close to the prostate, and divided cautiously towards the bulb, by carrying the knife along the groove of the staff, till an opening was made of sufficient size. The staff was then withdrawn, and the point of the fore-finger of the left hand served as a guide for the introduction of the dilator, which having been previously well greased, was passed along without any difficulty. A little warm gum-mucilage was next slowly injected into the instrument, until the patient slightly complained of the feelings of distension. On removing him from the table to the bed he complained of a strong inclination to make water, which was found to arise from the dilating part of the instrument having slipped into the bladder. It was emptied, partially withdrawn, and, when fairly within the neck of the bladder, again distended. In this position it was secured by attaching a long tape to it, and around the patient's foot, which again was fastened to the bed-post. The patient did not complain above his breath during the operation, nor lose more than two or three drachms of blood. Another opiate was now administered.

In three hours time, a few teaspoonfuls of the mucilage were again thrown into the dilator until the patient complained. Urine had passed freely along that part of the tube which communicated with the bladder. He slept occasionally during the day, and the pulse was natural. 30th, half past 8, A.M. Going on well; thought the distension as much as he could bear. At 1 P.M. Slight sympathetic tenderness over the whole of the abdomen; pulse 104, irritable; uneasy from distension; the pain of perineum on coughing; tongue clean and moist. Gave him an opiate, and sent word to my medical friends, who met me at 3 P.M. I then, in their presence, emptied the dilator, and withdrew it, at the same time passing my left forefinger along it into the bladder. I immediately felt the stone, which was of small size, and in shape resembled a coffee bean, being about four times its size. It was removed with the scoop and finger. The prostate was well dilated, and would have allowed the removal of a calculus of more than an inch in its shorter diameter. The uneasiness of the abdomen and perineum disappeared on the withdrawal of the dilator. A litho-

tomy-tube was then left in the wound. At 12, *med. nocte.* Urine had passed freely; pulse 96; tongue moist; no pain; had slept well; ordered a dose of castor oil. 31st. Bowels not moved; had an enema; appetite good; says he never felt better. Aug. 1, A.M. Complained of slight uneasiness, which disappeared on the removal of the lithotomy-tube; going on well. At 10 P.M. was able to retain his urine, and could expel it by the wound. At midnight passed about half-a-cupful by the natural passage. He was directed to lie on his right side, to favour its passage along the urethra as much as possible. 2d to 11th. Going on well; bowels regular; tongue clean; no constitutional disturbance; urine escaped freely both by the natural passage and wound; deposit of mucus in it; no pain: each night had taken a composing draught. 12th. Had a rigor. 13th. Complained of pain along the left spermatic cord. 15th. Left testicle swollen. 20th. Unable to void his urine by the natural passage at all; *Ardor urinæ*, and *gonorrhœa præputialis*. 24th. There was a discharge of a teaspoonful, or two at the most, of dark brown fluid, partly by the urethra, and partly by the wound. None of it had been kept. We supposed it to have been from a small abscess in the neighbourhood of the bulb, from the circumstances of the rigor on the 12th, and of no urine having passed along the urethra since the 20th, though it had escaped freely by the wound.

For a few days he had laboured under constitutional disturbance of a slight description, and for the first time since the operation, had not rested well at night. After the escape of purulent matter, however, on 24th, he rapidly improved, and was able to walk out before the end of the month, occasionally calling at the surgery, and at other places still more distant from his home. For a short while, a few drops of urine occasionally escaped by the perineum when he was making the last usual efforts to expel it, until the wound finally closed. He has followed his employment (which is now that of a pipe-maker) from the 3rd of September to the 4th of October, and has improved much in appearance, being considerably stouter than before the operation; and he says he would willingly submit to it again if afflicted with the same complaint. I may mention that the patient was seen at different times by Dr. Lonsdale of Edinburgh, and by Messrs. Kerr and Linton of this city, besides those present at the operation.

Remarks.—1. It will always be advisable beforehand to dilate the urethra and neck of the bladder as much as possible, by the introduction of bougies gradually increased in size, both to facilitate the passage of the dilator, and to accustom those parts to the presence of a foreign and irritating body. 2. Before operating, as well as during the process of distension, an opiate operates advantageously, by diminishing the sensibility, lessening any chance of shock, and relaxing the part. 3. The grooved staff should be large, and pressed against the perineum, not hooked against the pubis, as in lithotomy, care being of course taken to prevent its escape from the bladder. 4. The external incisions I would recommend to be free, since, if the prostate were unfit to undergo the process of dilatation, either from great rigidity, as is frequently found in old subjects, or from morbid irritability—the operation could be at once completed by converting it into lithotomy. It will be unnecessary to repeat the reasons before given, for the preference afforded to this plan of proceeding. 5. The form of the dilator sent to me by Mr. Weiss might be improved by making it cylindrical, and not tapering towards each end. There would thus be no risk of its slipping from its position. The signs of its being properly placed are the feeling of distension and immobility. When it slips into the bladder (as happened in this case, on removing the patient from the table), the instrument can be pushed inwards towards the bladder, cannot be withdrawn, the tube is very moveable in all directions, and the patient experiences *tenesmus vesicæ* without any feeling of distension. It would be better if the dilating part of the instrument was of sufficient length to appear in sight, as the operator would be not only certain of its position, but able also to judge of the degree of tension when injecting the fluid—a much safer criterion than trusting to the feelings of the patient, who might possibly submit without complaint to a pressure that would prove injurious. The instrument would be also improved by attaching a small stop-cock to the urine tube, and another to the tube that communicates with the dilator, as that which

screws into the syringe is apt to slip when left in the tube. If the piston of the syringe was graduated, and the dilator perfectly water-tight, the surgeon would be able to judge exactly of the degree of distension of the prostate by the quantity of the fluid injected; and this would at once enable him to remove the instrument as soon as the dilatation was complete. 6. The length of time requisite for dilating will, of course, vary according to the resistance of the prostate and degree of force used; but I would strongly urge its being done at intervals, for, say quarter of an hour at a time, as less likely to cause irritation than if continued for a period of 30 or 40 hours, as has been mentioned. When the dilator was withdrawn in this case, two fingers could be introduced with the greatest ease along with the scoop.

The instrument, when fully distended, measured 4½ inches in circumference, and is about the size of a hen's egg; and a stone of the same dimensions might have been easily extracted. Though twenty-five hours elapsed before the removal of the stone, it could have been as easily effected, and the dilation must have been as complete at the end of the third hour, since no additional fluid was thrown in after that time. This period was allowed to elapse, as I certainly did not expect to meet with so little resistance, and be able to complete the operation in so short a time. The alterations in the length of the dilating part of the instrument which I suggested above, would have at once prevented this, nor would it have happened, could I have been certain that none of the fluid had escaped where the stop-cock is inserted into the tube, and by that means known that the distension was kept up. Though impossible to form a correct estimate of the operation from one case, I would be inclined to give a decided preference to this plan over that of lithotomy.

The patient, from beginning to end, could never be said to be in danger, as any hæmorrhage that might have taken place during the operation could have been easily controlled. The presence of the dilator effectually prevents any oozing, as well as the injurious contact of the urine with the raw wound. There was no chance of shock, no risk from peritonitis, infiltration of urine, inflammation of the veins of the neck of the badder, nor any of the grave sequelæ that too often supervene on the operation of lithotomy. The only unfavourable circumstances that occurred during the progress of the case, were the formation of a trifling abcess, as previously mentioned, and the existence for a few weeks of a small fistula, which would barely admit a crow quill. The former would probably never have occurred, had not the pressure, as recommended, been uninterruptedly continued; and the latter, which healed up soon on his taking exercise and gaining strength, is of too frequent occurrence after lithotomy, to deserve more than a passing notice. Difficulties, which have been already stated, may occur, viz., great irritability or rigidity of the prostate. In such cases no time has been lost, if the preliminary incisions for lithotomy have been resorted to, and the prostate may be at once partially divided, and the stone removed. But is this step advisable, or even justifiable where the dilator can be employed? I should say not. The loss of a few hours, for the purpose of dilating, is, of course, of no moment, if the danger to the patient is lessened, or even removed, and whatever be the size of the stone, if the distension has been complete, it will be perfectly accessible to the most efficient crushing instruments, and its perfect and immediate removal rendered a matter of certainty.

This conclusion, which Dr. Willis anticipated, is fully warranted by, and could have been realised in the preceding case; and his able advocacy of this operation, with his bold and judicious estimate of its merits, as compared with lithotomy and lithotrity, entitle him to the highest esteem of his professional brethren, and to the warmest gratitude of every sufferer whom the operation may relieve. *Edinburgh Med. and Surgical Journal, Jan.* 1843, *p.* 137.

[To show that the elasticity of the urethra is most remarkable in its membranous and prostatic portions, Mr. Bennett Lucas, in his clinical lectures at the Metropolitan Free Hospital, relates the case of a child 4 or 5 years old, in whom the calculus readily made its way to the commencement of the corpus spongiosum, where it was felt through the integuments, but no force or ingenuity could make it advance further. It was cut down upon and

removed, and the little fellow recovered in a short time. The calculus had constantly advanced to this situation, and had as constantly receded into the bladder. *Prov. Med. and Surg. Journal, Feb.* 18, 1843.]

53.—ON LITHOTOMY....By JAMES SYME, Esq., Edinburgh.

[When we remember the difference of opinion entertained on the extent to which the deep incisions in this operation ought to be carried, we ought carefully to weigh the arguments adduced by one whose views have been gradually changed, by the force of circumstances, from one side of the question to the other. It seems that the most eminent men in our profession have differed, and do still differ in opinion on this subject; and we therefore feel it necessary only to lay those opinions before the profession which are published from time to time, without offering any lengthened comment upon them. The great question seems to be, To what extent may the incision at the neck of the bladder be carried? Mr. Syme began his career with the belief, that if the prostate were divided to a moderate extent, the aperture might be safely dilated without any further cutting. At first he was successful by proceeding thus, but meeting with some large stones, his opinion was shaken, and when force was obliged to be used, he found that the textures at the neck of the bladder had suffered from inflammation and suppuration, and he came to the conclusion that infiltration of urine was not more to be avoided than tearing the substance of the prostate. He found by careful dissection, "That after all its surrounding coverings had been removed, the prostate, when completely divided in the direction of the lateral operation, would not allow the passage of a spherical body exceeding in diameter one inch and a quarter. Unless, therefore, the prostate was completely divided, or the stone was so small as to admit of extraction through a partial incision of its substance, it followed that tearing of the glandular texture must take place, and in all probability prove fatal." Mr. Syme goes on to say:]

I then resolved to cut freely through the whole thickness of the prostate, and can safely affirm, that in no case has any bad consequence resulted from doing so. It is true that I have still met with unfortunate results, and these I wish particularly to notice, since, without explanation, they might naturally be attributed to the principle I advocate, while in truth they have attended departure from it.

In the ordinary way of performing the operation, a variety of circumstances, such as depth of the perineum, rigidity of the limbs, bulk of the prostate, or position of the staff, may impede and render imperfect the prostatic incision, any subsequent enlargement of which is not only difficult, but dangerous to the rectum. Through obstacles of this kind, though contrary to my wish, the aperture has proved incomplete, and I have nevertheless, effected extraction, perhaps encouraged, in opposition to my own experience, by the strong statements of justly respected authorities as to the safety of dilating the prostate; but regret to say, that I feel more than ever confirmed in the dread of taking this liberty with the gland. The success of an operator affects merely the interests of his patient and himself; but the principle of an operation involves the welfare of the whole human race. If, therefore, the testimony which I have borne of the safety of cutting the prostate, and the danger of tearing it, has any effect in opposing the modern heresy which threatens to bring back, instead of the lateral operation, the painful process of the apparatus major, I shall feel consoled for the disappointments that have occurred in my practice.

It is usual to make the incisions of the perineum with the knife which is to be employed for cutting the urethra and prostate, and which necessarily requires a length both of blade and handle considerably greater than what belongs to the scalpel or bistoury chosen for the ordinary dissections of operative surgery. The instrument, is, consequently, less manageable than the smaller one, which should certainly be preferred, especially as the next step of the operation is executed much more easily with it. This is laying open the membranous portion of the urethra, which I have known operators of great experience regard as the most difficult part of the process. With a small knife there can be no difficulty

whatever, or, what is worse, any risk of missing the groove, and injuring the neighboring organs. The most certain way of attaining the object, is to shield the blade with the forefinger of the right hand, and press it upon the groove, so as to make an opening into it, through which the knife, having been turned in the direction of its edge, may be pushed through the apex of the prostate. The operator then keeping the point of his finger in the hollow of the gland, should desire the curved staff to be withdrawn, and introduce a thick straight one nine inches long, with a wide and deep groove, through the wound of the perineum into the bladder. Holding this sure guide in the left hand, raised so as to elevate the prostate, and withdraw it from the rectum, he may, with perfect confidence, introduce whatever instrument he thinks best for dividing the prostate. I would advise the handle to be four inches, and the blade about three and a half long, half an inch broad, straight on the back, except just at the point, which should be rounded off to make it run smoothly in the groove, and sharp on the edge only to the extent of an inch and a quarter. The extent of incision may be regulated with the utmost precision, by the angle at which the knife is held in the groove; and if enlargement proves requisite, it may be safely effected by re-introducing the staff, and running the knife again along it, or using one of the larger size, with the edge rather thin than sharp.

Lond. and Edin. Monthly Journal of Medical Science, Dec. 1842, *p.* 1032.

[Such are the opinions of one of the best surgeons in this country, and when we see them confirmed by names so respectable as those of Cheselden, Desault, John Bell, Klein, &c., they ought to be seriously considered. But on the other hand we have Scarpa, Callisen, Le Cat, Dupuytren, Brodie, Stanley, Liston, Ferguson, &c., who recommend the plan of not cutting beyond the base of the prostate gland, so as to avoid dividing the fascia interposed between the pelvic cellular tissue and that more superficially situated. The opinion of Mr. Ferguson on this subject, is described in an operation which was lately reported in the Lancet. He says:]

In anticipation of the somewhat formidable character of the operation, as well from the apparent depth of the perineum as the supposed size of the stone, I provided myself with all the requisites for such an occasion, in addition to the ordinary knife, forceps, &c., which are generally required. I had beside me a probe-pointed knife, to enlarge the wound in the neck of the bladder, should that be requisite; longer and more powerful forceps, to give more command over a large stone; a strong lithotrite to break the stone through the wound, should that be deemed necessary; and a syringe, with a tube, to wash the fragments out of the bladder in the event of the stone breaking.

Thus prepared, then, I proceeded with the operation, and having introduced the staff, and tied up the patient in the usual manner, made the different incisions, passed my finger into the wound, then the forceps, with which I seized and extracted the stone. Some of these steps are worthy of separate consideration, and I shall, therefore, bring them under your careful notice. Having on a former occasion referred particularly to the introduction of the staff and tying up the patient, I need not dwell on these points to-day. The external incision, however, was of unusual character, having been much longer than is usually recommended for this operation. It was fully six inches in length, and various reasons induced me to be so free with the knife in this part of the proceeding. The quantity of fat on the hips and perineum showed that the wound must be very deep ere I could reach the bladder, and the supposed magnitude of the stone indicated the necessity for a free external opening. There is a utility in such an incision which appears to me to have been in some measure overlooked; it is this, that after the skin has been divided, although the point of the knife may have been thrust half an inch deep, when the edges of the wound separate, the fat and cellular tissue seem to be on the same level as the skin; in other words, the perineum is made nearly half an inch shallower. This observation will be better understood should you ever see lithotomy performed with a short external incision: you will then see that instead of the edges separating, and permitting a ready access to the deeper parts, they will form a tight band over the fore-finger of the left hand when it is thrust towards

the neck of the bladder. You might remark that I began my incision higher up, that is, nearer the scrotum, than is usually recommended, a plan which I invariably adopt when I cut into a deep perineum; but I wish you to understand distinctly that the wound here is carried through the skin only, and that the subsequent steps of the operation are all conducted at a considerable distance from this part. I thus, as I imagine, obviate any obstruction to my finger, such as that just referred to, and facilitate the use of the forceps as well as the extraction of the stone. I must caution you against limiting the steps to the upper part of the perineum; by doing so you would confine yourselves to the narrowest part of the aperture in the pelvis, and be so close under the angle of the pubes that it might be impossible to extract the stone. Although, then, I have no hesitation in dividing the skin near the scrotum, I am particular in keeping low down afterwards, both for the reasons stated as well as for the sake of avoiding the bulb of the urethra, or the artery leading to that part.

When the skin and superficial cellular texture were divided, I then pushed the point of the fore-finger of my left hand upon the part where I placed it on this drawing, i. e., between the erector penis and accelerator urinæ muscles, pressed it against the staff, introduced the point of the knife into the groove, about the middle of the membranous portion of the urethra, and then carried it onwards, so as to effect the internal incision. This part of the wound is small in proportion to the external, and in my own practice it is very limited indeed.

I consider that the textures about the neck of the bladder are more readily extended than the skin, and therefore that the deep parts of the wound can with facility be dilated to the extent requisite for the extraction of the stone. A wound of these parts of greater extent than this I deem additionally dangerous, while the free use of the knife on the skin is comparatively of no moment. The internal opening should, in my opinion, be made partly with the knife, finger, and forceps, for when the blades of the latter instrument are opened they have a considerable influence in this respect. I deem it almost impossible to extract a stone about the average size through what is called a clean cut in the neck of the bladder; and a clean incision of sufficient size to permit the escape of one of a larger diameter, I should consider highly dangerous. Here, for example, is a stone which you saw me remove lately; it is an inch and a half in its shortest diameter, and to admit its extraction without dilatation a wound of more than two inches and a quarter in length would have been required. The stone in the present instance being nearly two inches in breadth as it came out, must have required a clean cut of nearly three inches; and in neither of these is there any allowance made for the thickness of the blades of the forceps, which should be always estimated in such calculations.

Observe the narrow blade with which I cut, and, when I place it in the groove of the staff, how very narrow the wound must be; the urethra is laid open, and a slight notch only is made in the left lobe of the prostate. This having been done, and the knife withdrawn, the forefinger of the left hand was pushed along towards the bladder with a degree of force sufficient to enlarge the wound by dilatation, perhaps even laceration, of some of the textures. In this instance the perineum was so deep that I could not (as is generally in our power) get the point of the finger fully into the bladder, and put it over the stone in such a manner as to draw it towards the neck of that viscus, and place it in a favourable position to be seized with the forceps. I could only touch it with the point o. the finger, and could form no idea either of its exact position or size. The staff was now withdrawn, and the forceps were carried along on the back of my finger, which I was at the same time gradually withdrawing.

In such a case as this, from the uncertainty as to the exact size and shape of the stone, I could not make sure of seizing it at once with the forceps, and being unable to ascertain by the finger whether it was caught in the most favourable axis, I had to take my chance on both these points. Fortunately the stone was grasped in the second clutch with the forceps, and, as you saw when it was extracted, it had been caught most advantageously. Being conscious that the opening in the neck of the bladder was not yet of sufficient size to permit the passage of the stone, I was prepared for the necessity of further dilatation, and

expected that I should accomplish this during extraction, by moving the forceps in different directions, and at the same time applying some considerable force in drawing them towards myself. As soon as the stone was seized, and after being satisfied that I had not included any portion of the wound, or of the bladder between the blades (to make sure of which I almost invariably turn the forceps and stone once round), I began the requisite movements to bring the stone out. I soon perceived, however, that the textures were not likely to yield except on the application of a greater degree of force than I deemed myself warranted in applying. I therefore (still keeping hold of the stone, and committing the charge of the forceps to an assistant) passed a probe-pointed blade into the wound, and made a slight incision in a part which seemed to offer the greatest resistance, and could at the same time be most readily approached. Here it was the left lobe of the prostate which I touched, but had any other part seemed to require the knife I should not have hesitated to apply it on any side of the wound or prostate. Now I took the forceps again, and at once felt that the parts yielded more readily, so much so that the stone was extracted without further trouble. A tube was introduced to permit the ready escape of urine, for as the surface of the wound was large, ragged, and deep, I thought it well to use this precaution in this instance.

There was no bleeding of consequence afterwards, and the case has gone on so favourably that I have little to say regarding the after-treatment. The tube was withdrawn on the second day, and, with the exception of a little opening medicine from time to time, he has required nothing on my part. The wound has been slow in closing, which is chiefly to be attributed to its great original size, as also to the circumstance that on the third day after the operation I tore open some of the adhesions to allow the urine to pass readily away. It is difficult in some instances to account for the tardy closure of the wound, for it certainly is not in all instances in proportion to the size of the wound. My friend Mr. Thomas Elliot, of Carlisle, has lately published a case of removal of a stone from the bladder by the operation of lithectasy (Edinb. Med. and Surg. Journal, No. 154), a proceeding similar, in some respects, to lithotomy with the apparatus major, by which the opening in the neck of the bladder is made by dilatation. Here, although the use of the knife in the deep part of the wound was so limited that a slight opening in the membranous portion of the urethra was all that was made with it, the aperture in the perineum was nearly a month in closing; while, on the other hand, it has often happened that even large wounds have entirely closed by the first intention, and that the urine has passed from the bladder by its natural course immediately after the operation.

You have now, gentlemen, since the commencement of the session, seen me treat three cases of this kind on principles such as I am at present advocating. In the case of Edward Minister, ætat. 75, on whom I operated on the 15th of October, and extracted this stone, which is considerably above the average size, the opening in the neck of the bladder was not larger at first than to permit the entrance of the point of my finger; and, although considerable force was used in dilating and extracting, and the circumstances were otherwise not very favourable, the result was most satisfactory: the patient recovered without a bad symptom, excepting the great shock of the operation, which will happen in some individuals under any circumstances. In the boy J. Saul, ætat. 6, from whom I extracted this small stone on the 13th of the same month, similar force was used, though not to the same extent, and the patient left the house with the wound perfectly closed exactly three weeks after. This practice I have followed in other instances, which some of you may have seen in this house; and, as the results of any mode may reasonably be judged of by its success, you may be inclined to look favourably upon that which I have endeavoured to inculcate. I have seen patients die after this method as well as after free incisions. Some patients will die from the operation by whatever mode it is accomplished, yet I cannot but think that there is less danger so long as part of the prostate remains entire, than after the knife has been carried through this organ and along the tunics of the bladder.

Lancet, Feb. 18, 1843, *p.* 742. (See also *Retrospect, Part V.*, p. 197.)

[We would also refer the reader to Mr. Elliot's case of Lithectasy in the preceding article, to shew the degree of dilatation to which these parts may be subjected with safety, provided sufficient time be given for the process. The practice of Mr. Martineau, of Norwich, is frequently brought forward by those who advocate free incisions through the prostate, and among other eminent men, even Mr. Samuel Cooper, in his Surgical Dictionary, mentions the name and practice of Martineau as confirming the value of this mode of entering the bladder. We are disposed however to doubt whether Mr. Martineau ever did follow this plan, and we are borne out by some remarks of Mr. Dalrymple, who we believe had ample opportunities of witnessing the practice of this eminent lithotomist. Mr. Dalrymple observes:]

Mr. Martineau was too good an anatomist not to be aware of the extreme danger of implicating the deep pelvic fascia in the required sections; for it must be well known to all practical surgeons that the most serious evil to be dreaded after lithotomy was infiltration of urine into the cellular tissue behind and above the bladder. He (Mr. D.) had seen death occurring from this cause, where abscesses and suppuration extended almost as high as the kidneys in the loose cellular membrane. If the division into the prostate be carried, therefore, up to or beyond its junction with the neck of the bladder, it was almost impossible to avoid wounding that most important boundary. He (Mr. D.) had witnessed many of Mr. Martineau's operations, and was convinced that it was never his intention to carry the wound of the prostate, by the knife, beyond the middle of that gland, and that the opening was dilated and extended by the blunt gorget, the favourite instrument used in the Norwich operation. The incision practised by Mr. Martineau in *cutting out*, was for the purpose of laying the deep and superficial sections into one open and even wound, giving a free and dependent outlet for the urine, after the operation. Mr. Martineau, also, never attempted to heal the wound by the first intention, and although a pledget was applied to the perineal wound at the moment of carrying the patient to bed, yet that was a mere form, and one of the relics of the old school, of dressing the wound. The same form of operation was practised by his (Mr. D's.) father, in upwards of one hundred cases, and the only patient who had died of hæmorrhage was one in whom the cutting gorget had been used, an instrument which he never resumed.

[The above remarks were made by Dr. Dalrymple in answer to Mr. Mayo on the other side of the question; and then follows in the discussion, the important opinion of Mr. Quain, so that we think upon the whole, the evidence in favour of the smaller incision at the neck of the bladder, decidedly preponderates.]

Mr. Quain observed that Mr. Mayo had laid down the general rule, that in lithotomy the external incision should be large and the internal a free one. He (Mr. Quain) agreed with the first but dissented from the second. When he commenced to perform lithotomy, and had to make up his mind as to the best mode, he arrived at the conclusion, which had been supported by everything he had since observed, that so far as the operation itself was concerned, those surgeons met with the most favourable results who cut the prostate to a small extent, insomuch, indeed, that the success might almost be said to be in direct proportion to the smallness of the incision through the gland. It was stated in the paper that the author, after dividing the superficial parts, passed the knife through the prostate (the edge of the instrument being directed towards the operator) and divided the gland forwards, cutting to the membranous part of the urethra. This plan seemed to him. (Mr. Quain) to be one of very great difficulty. It was no easy matter for the surgeon to open the membranous part of the urethra, and introduce an intrument through it, without the help of a staff, as was well known to those who had operated in cases of infiltration of urine with impassable stricture. To feel the prostate at the bottom of the wound, and to direct a knife into the staff through that body, must be exceedingly difficult to accomplish. Moreover, he did not understand what advantages the author of the paper believed this plan to possess over the comparatively easy one of introducing the knife into the staff, in what was called the membranous por-

of the urethra, where the instrument might be felt, and then directing it onwards in the groove. As to the manner of dividing the gland, he believed it was best to make merely a nick, or a very short incision, with the knife, and then, in ordinary cases, to trust for the enlargement of the wound to the finger. It was objected that a lacerated or jagged wound was thus produced. This objection, however, was not well founded. The prostate was fully and evenly divided, incised, as it were, by the finger, at the same time that the fascia behind the gland and the bladder were untouched. Agreeing with gentlemen who had spoken as to not cutting the fascia, he was unwilling to refer to that subject without alluding to Scarpa, who, he believed, was the first to connect that membrane with the explanation of the evils resulting from a free incision towards the bladder. But he was disposed to think that all the evil resulted from the division of the bladder, and that the fascia marked the part, the neck of the bladder, which it was unsafe to divide. He had seen one case in which death occurred after lithotomy, where the prostate was cut through its whole length, and the fascia and the neck of the bladder were divided to a small extent. Urine had escaped though an opening behind the fascia, and was diffused around the bladder. When the bladder was divided at all, the edges of the incision did not remain in contact, but in consequence of the nature of the tissues they gaped like a divided muscle. *Lancet, Dec.* 14, 1843, *p.* 481.

[While dwelling on this much disputed question, we would refer the reader to an interesting paper in the Lancet, by Mr. Bryan, of Great Russell Street, London, who has introduced a new modification of the staff used in lithotomy, which may enable the surgeon to cut, divide the prostate, and enter the bladder, without being ignorant how far his incision has extended. Mr. Bryan says:]

Authorities differ greatly, both as to the direction and the extent of the wound in the bladder; and even supposing the question to be decided, there is no instrument that will enable the operator to make his last incision with exactness and freedom. Can the operator of the present day divide the neck of the bladder with precision to the extent of four, five, six, seven, or eight-tenths of an inch, namely, make exactly the extent of wound he may consider desirable, whether the perineum be deep or shallow, the parts rigid or relaxed? As to the direction of the incision, the neck of the bladder has been divided in all directions, and the student very naturally, but very incorrectly, may conclude that the direction is of little importance. In those operations which I have seen performed by the knife, from observing the direction of its edge, when passed forward into the bladder, I had formed the opinion that if an opening to the extent of three quarters of an inch were made, the prostate was cut through and the vesiculæ cut into. This led me to examine, at every opportunity I had, the wounds made in those subjects which had been used to exemplify to surgical classes the manner of operating with the knife. In every case which I met with I found the prostate completely divided and the vesiculæ sliced into, although the incisions had evidently been made according to rules taught in the schools of surgery. If the incision through the neck of the bladder be made to the extent of three quarters of an inch, downwards and outwards, parallel to the external wound, the prostate will be completely divided and the vesiculæ wounded. With regard to the vesiculæ seminales, if it be necessary to divide completely the prostate gland, this may or may not be the best direction to cut in; but it is as well to know what is cut and what is not.

With reference to the last incision in the operation of lithotomy, there are a few mechanical considerations which are positive, however opinions may differ as to free internal incisions, or dilatation without incisions, or with very small ones. There are two things only to be considered—cutting and dilating. If you cut through the prostate, you cannot, with impunity, apply force in dilating the wound. What is there to antagonise the neck of the bladder and the substance of the prostate? Merely the coats of the bladder itself. If it be wished to stretch the wound, this may be done to a little extent, but it is the bladder at the external end of the incision that must give way. The neck of the bladder and the tissue of the prostate gland will not dilate without something to bear a

counterstrain. If there be free cutting, say one inch or much less, in the directions usually adopted, there is an end to dilatation. A cut of three quarters of an inch in the right direction, with cautious dilatation, will give a very wide opening. By cutting another quarter of an inch beyond this, do you not lessen the size of the opening unless you introduce another element, namely, *tearing?*

[By examining the natural situation and size of the prostate, the vesiculæ, the vas deferens, and the internal orifice of the urethra, we shall see that "in dividing the prostate and neck of the bladder, if the cut be made in that direction in which the largest wound in the prostate may be obtained without completely dividing it, the incision must be directed more outwards than downwards, calculating by the plane of the integuments, and considerably across the external wound."]

Horizontally outwards the prostate admits of an incision of half an inch, leaving a similar portion undivided. A section of one third of an inch, having an inclination upwards, extends beyond the gland. Wounds by which the prostate is not completely divided have their edges nicely adapted in the dead subject; but if you cut beyond the prostate the loose cellular tissue has not power to retain the cut surfaces in just apposition. This must apply much more to the living subject. In the dead subject, the longest possible incision in the prostate, without completely dividing it, is about eight or nine-tenths of an inch. This wound, together with the neck of the bladder, will stretch out so as to allow a round body of more than four inches circumference to pass without tearing. If you pass the finger into the rectum of the living male subject, when completely beyond the sphincter you find the rectum expanded behind it, and extending to the right and left, and even a little upwards on each side of the prostate gland. It is not of a round form, but has a slight depression in which the prostate lies, and is flattened between the distended bladder above, and the levator ani below, thus extending laterally.

It is this shoulder of the rectum, if I may so term it, which is most in danger, and which the unpractised operator should bear in mind. It is above the level of the anus as the patient is placed for the operation. In the operation in question, the first incisions are made under the guidance of the eye, but the incision through the prostate is made at the bottom of a deep, freely bleeding wound, where all the parts are soft and yielding, and possess but little defined outline to serve as a guide. It is, I have little doubt, the inability of making the wound in the bladder with precision, which has not only occasioned the invention of the gorget, bistouri cache, and other instruments, but has also given rise to the great difference of opinion and practice which prevails in the schools. The vagueness and indefiniteness of our information on this most important point partakes of the character of the wound itself.

The late distinguished Sir Astley Cooper has observed, "In deep perinei, when operating with the knife, you often think the instrument has completely entered the bladder when probably its point has scarcely reached the verumontanum; you are at a loss; are quite at sea, and cannot tell whether it has entered the bladder or not." "In old persons, in whom the prostate and bladder are often diseased, and all the parts extremely rigid, the knife makes scarcely any impression, and the opening through the prostate is exceedingly small, while, on the contrary, the external wound will be of considerable size, which may be accounted for from the obvious fact that the force is greater at the hand than at the point of the instrument."

The gorget is used with the intention of making the cut into the bladder of a definite size; but it does not answer this purpose, and is on many accounts an objectionable instrument. Suppose its beak placed in the groove of the staff; the staff gives it the direction in which it must pass into the bladder, while the gorget itself is inclined towards the staff at the instant it is carried forward; thus, as it does not cut exactly in the direction of its edge, force is required to push it through the prostate. All that keeps the prostate steady in front of the gorget, all that prevents the prostate from receding before the force of the gorget, is the delicate urethra and that portion of the deep perineal

fascia which is reflected backwards over it and the prostate to the bladder. The gland offers a rounded surface to the gorget, its slender elastic attachments can not hold it steady; when you push the gorget forward the gland recedes from you, till at last the gorget partly cuts and partly tears it—it gives way suddenly; you enter the bladder abruptly, and are fortunate if you have not torn the urethra or transfixed the bladder. The prostate is too moveable for a gorget to divide it with any precision as to direction, and, as to the size of the wound, it is most uncertain; there may be a cut equal to the breadth of the gorget, or, the parts yielding by stretching, the cut may not be one half of its breadth.

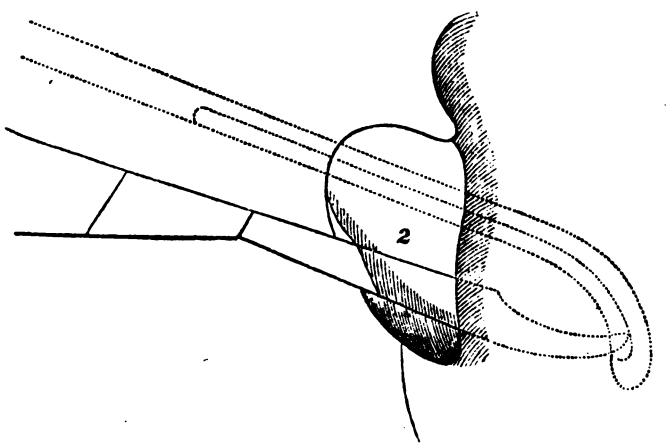
In the hands of a practised operator it may be cut pretty well, but then its direction must be made parallel to that of the staff. It immediately becomes a dangerous instrument; for unless the gorget is inclined towards the staff it may slip from the groove and pass in a wrong direction. The proper path for a gorget is a tough one; the dangerous paths are very easily and very often slipped into. The operator has two impressions to attend to; but the force required to plunge the instrument into the bladder prevents his judging well whether the beak is in the groove or not; the stronger impression incapacitates the hand from feeling the weaker impression.

The eminent authority quoted above, says, in his surgical lectures, "I have known the accident of the gorget slipping and passing between the bladder and rectum at least a dozen times, and in each case the most lamentable and fatal consequences ensued."

There is no need of argument to prove that to divide the neck of the bladder with precision is difficult; the great number of instruments invented and used with the intention of accomplishing this end, are alone sufficient proof. None of these inventions are found to answer the purpose intended; they make wounds of a most uncertain size and direction; they have proved most dangerous instruments. These considerations led me to regard the staff as the instrument which should be modified in order to regulate with precision the size of the deep internal wound, and thus add to the freedom and clean-cutting of the knife that precision so much desired.

The annexed figure represents the staff which I propose, and a slight modification of the common scalpel suited to it, together with a side view of the parts principally concerned in lithotomy, intended to illustrate the operation.

The Staff and Scalpel, and side view of the prostate gland, and extent of the incision made through it.



The staff is straight to within one inch and a half of the end, which is curved, so as to pass readily through the urethra into the bladder. The groove is on the concave side; it should extend so far upon the curve as will bring the edge of the knife to a distance from the straight part of the staff equal to the length

of the incision intended. The knife should be furnished at the extremity with a slight shoulder, so as to run readily to the end of the groove. The back should be thick near the handle, as the blade at this part should be very narrow, so as to bring the edge parallel to the staff, although the back may diverge a little from it. The edge should cut from the extremity, to the extent of one inch and a half along the blade, or a little less; the rest should be blunt to the handle; it should be deeply notched at the back at the end in order that it may the more readily enter the membranous part of the urethra. The staff which I first had made throws the knife outwards and downwards, and limits the wound to the size represented in the figure, and in fifty cases, with the same staff, the wound will not vary the tenth of an inch. In addition to affording perfect precision to the wound in the bladder, this staff will also protect it, whether distended or nearly empty, from all chance of being wounded by the knife when within its cavity, and however deep the perineum may be, the operator may make his incision without the least fear of going too far or not far enough. By its aid the last incision may be made with as much ease and precision as the first. As I have previously remarked, the schools differ on the subject of the propriety of dividing the prostate completely, or only very partially. The following conclusions may, however, be legitimately deduced from a consideration of the form of the parts concerned in the operation:—

At an angle of 45°, calculating from the axis of the staff and the mesial plane, *an incision of three quarters of an inch may be made without completely dividing the prostate.* An incision more horizontal than this must be much more limited, more particularly for this reason: *when the handle of the straight staff is depressed, or when the curved staff is elevated against the pubis, the central portion of the prostate is raised more than the lateral portions, and thus a very small horizontal incision extends through the gland. It is for this reason, also, that a cut equally outwards and downwards divides the prostate in the direction admitting of the longest incision.*

A cut outwards, at an angle of 45° from the straight staff, is also in the firmest part of the gland; one more downwards extends into the fissure which divides the lateral from the third lobe, and also involves the vesiculæ or its duct, or even the vas deferens. If the prostate ought to be divided in the direction admitting of the longest incision without complete division, then *there is but one proper direction to cut in, and all others are more or less faulty.* If the cut does not extend beyond the prostate, the edges of the wound remain well adapted, being supported by the texture of the gland. If the cut does extend beyond the prostate, the edges of the wound cannot be expected to adapt themselves better than would those of a wound in an intestine, or of a cut through the lip. The same consideration applies to the urethra; if opened close to the apex of the prostate, it remains, by the firm support of the prostate, a comparatively closed canal.

The staff proposed should be used in the following manner: While the first incisions are made to reach the urethra at the apex of the prostate, it may be elevated towards the pubis, the groove being directed outwards. The handle should then be depressed as much as practicable, the groove directed downwards and outwards (at an angle of 45°, calculating by the axis of the staff and the mesial plane), and the curved portion should be carried back freely into the bladder, as in the sketch. The point of the knife being introduced into the groove, and its edge directed in the same plane as the staff, it should be thrust forward to the end of the groove, the handle of the knife being at the same time brought as nearly as practicable into parallelism with the staff, which should not be moved during this incision, but, on the contrary, held steadily.

The steps of the operation may be thus described: The first incisions, those made to reach the membranous part of the urethra, divide a triangular space, the base toward the integuments, the apex directed upwards, inwards, and backwards, and arching round the bulb to reach the urethra just anterior to the deep perineal fascia and the apex of the prostate. These incisions constitute the first stage of the operation. Directed by the finger, the end of the knife should be placed in the groove of the staff, its edge turned outwards and

downwards; then, a simple thrust forward makes, with exact precision, the extent of wound intended, dividing the parts in the space marked marked 2. This is the second stage. The knife should be withdrawn along the groove, the finger placed in the wound to find if there are any bands of muscular fibre or fascia which require division; if there are such, they must be put on the stretch by the finger and divided by light touches of the knife.

Lancet, Feb. 11, 1843, *p.* 701—706.

54.—LITHOTOMY IN AMERICA.

Dr. Nott, in a paper on lithotomy, mentions the astonishing fact of Professor Dudley of Kentucky having operated on 153 cases, and lost only four of them. This extraordinary success is attributed to the great care taken in preparing the patients for undergoing the operation, the dexterity of the operator, and the pure air which the patients breathe at Lexington, where Dr. Dudley resides. Dr. Nott recommends the breaking all large stones previous to extraction, and states that, in his practice, the mortality is diminished in consequence. He employs rather a novel means of removing all the smaller fragments from the bladder, viz., injecting a stream of water into the bladder by means of a wide catheter passed through the urethra, while the patient is sitting over a chamber-pot. Every fragment is thus washed through the wound.

Edinburgh Medical and Surgical Journal, Jan., 1843, *p.* 228.

55.—CASES OF CLEFT PALATE SUCCESSFULLY OPERATED ON.

By James Cusack, M. D., Surgeon to Stevens' Hospital, Dublin, &c.

[The first of these cases was operated on by Dr. Cusack, the other two by Sir Philip Crampton. In the first case, Dr. Cusack found a complete congenital fissure of the soft palate. The act of opening the mouth produced as usual a separation of the parts, but these approximated during deglutition. As the chief difficulties of this operation often depend upon the irritability of the patient, Dr. Cusack recommended that for some months before the operation the patient should accustom himself to retain his mouth open, and diminish the irritability of the parts by the frequent introduction of his finger. This plan answered, and in time the patient could retain his mouth open without uneasiness, and bear the application of his finger almost as well as to any other part of his body. The operation was performed as follows:]

With the aid of a simple forceps and curved needles I passed three ligatures, at equal distances from each other, through the soft palate, the lowest being at the base of the uvula; I then introduced a double edged knife about a line from the margin of the cleft, and the same distance from the apex of the triangle, on each side in succession, terminating the incisions above. As he had not breakfasted, we allowed a short time to intervene, during which he was supplied with some light nutriment; the edges of the wound were then approximated, and the ligatures tied with a surgical knot; one of these having been cut, as it was supposed, too closely, unravelled, and was replaced.

I saw him at three o'clock in the afternoon; there had been some slight hæmorrhage, and he complained of a teazing cough. At six o'clock in the evening I received a note from him to say that the ligatures had all unravelled. I visited him, in company with Mr. Rumley and a pupil, when I found that his statement was in a great measure correct. I cleared away a coagulum, which was the cause of the irritation, and without difficulty introduced two ligatures, at points more remote from the margins of the fissure. I then fed him, and afterwards brought the edges into contact, securing each ligature by a simple knot. So far from being disappointed at this accident, I felt pleased at its occurrence, as I flattered myself I had gained nearly twelve hours, and had remedied the undue pressure of one of the ligatures, which appeared to act injuriously on one section of the uvula. From this period no untoward symptom occurred. On the fifth day I cut loose the ligatures, and found that he had a perfect palate, the only remaining defect being a bifid uvula, a condition which is commonly met with in persons who articulate with perfect distinctness.

I shall now conclude by a few remarks in his own words: "The operation was not at all, comparatively speaking, painful; the cutting part I scarcely felt, and the presence of the ligatures was by no means distressing, except during the act of swallowing or eructation. From my own sensations, I think that by far the best plan would be to make the incisions in the first instance, and to defer the application of the ligatures until all bleeding has ceased, as I experienced much uneasiness and irritation from the presence of the coagulated blood which trickled from the margins of the wound. I now find the defect in my voice and speech considerably removed, and my articulation progressively improving each day; and I declare, in conclusion, that I would readily undergo the same operation for similar benefit if necessary."

[Sir Philip Crampton also operated on two cases, one on a fine boy of twelve years of age, the second on a young lady of sixteen.]

The peculiarity in the treatment of these cases consisted, first, in the manner of securing the ligatures; secondly, in the management of the patient after the operation. The difficulty of tying the second knot on the ligature without suffering the first to become opened by the strong retraction of the edges of the fissure effected by the muscles of the palate, has always been acknowledged. This difficulty, however, was effectually removed by an ingenious suggestion of Mr. Maclean's of Stephen's-green: after the ligatures had been passed through the palate at the distance of one quarter of an inch from the cut edge of the fissure, and brought out at the mouth, their ends were passed through a small perforated metallic bead, such as are used in making purses; the bead was then pushed down along the ligatures, closing them as it descended, until it touched the approximated edges of the wound; it was then compressed by a pair of strong, blunt-pointed forceps, and the ligatures were thus firmly secured without a knot at the required degree of tension. The other and most important peculiarity in the treatment, consisted in allowing the patients an ample supply of soft food during the whole period of the treatment. Boiled bread and milk, custard, soup, and jelly, were given twice or thrice a day, and the patients were not confined to their beds. Sir Philip Crampton conceived that the total privation of all nourishment for five days, so strongly insisted on by M. Roux, was not only unnecessary, but in the highest degree unfavourable to the successful issue of the operation. Indeed, if such were a necessary condition to its success, the operation must be limited to the few who had sufficient moral courage to endure so protracted and painful a fast, and sufficient strength of constitution to bear it with impunity. It might be concluded, *a priori*, that the absolute privation of all nourishment, solid or fluid, for five days, must cause, even in the strongest persons, a state of constitutional disturbance highly unfavourable to the establishing the healthy process of union by the first intention; and that such and even more serious consequences have resulted from the practice, is proved by the unquestionable testimony of MM. Manoury and Thore, interns of the Hotel Dieu, where M. Roux's operations were performed.

In both of the patients operated on by Sir Philip Crampton, the voice and articulation have been considerably improved; but a considerable time must elapse before the full amount of the benefit which may be obtained from the operation can be ascertained.

Dublin Journal of Medical Science, January, 1843, *p.* 322.

56.—IMPROVED TREATMENT OF HYDROCELE.

It need scarcely be recalled to mind that in the operation for hydrocele, after the serum has been discharged through the canula of the trocar, it is usual to inject an irritating fluid in order to induce an adhesive inflammation in the parietes of the tunica vaginalis. The inflammation somewhat subsides after about the fifth day, but a month commonly elapses before the whole quantity of the injected fluid is absorbed and a cure effected. On this somewhat tedious course of practice M. Lisfranc has made the following improvement: On the sixth day, after the use of a vinous injection, he makes a second puncture, for the purpose of emptying the tunica vaginalis of all the accumulated liquid, thus sparing nature the task of its absorption; and by these means he alleges

that a cure can be completed in less than half the time occupied by the usual method.— *Bul. Ther.* *Lancet, April*, 1843.

57.—OPERATION FOR ANEURISM OF THE EXTERNAL ILLIAC ARTERY, AND USE OF MR. TRANT'S ANEURISMAL NEEDLE.

By O. B. Bellingham, M. D.

[In this case the aneurism was of about three months' duration. The tumour was about the size of a section of a moderate-sized orange, seated above Poupart's ligament, and extending about half an inch below it. A very strong impulse was communicated to the hand, but no *fremissement*; immediately below Poupart's ligament, however, there was slight *fremissement*, and on applying the stethoscope a loud simple *bruit* was heard. It was determined to place a ligature on the common iliac artery, and the operation was proceeded with as follows:]

The patient being placed on his back, slightly inclining to the sound side, having the thorax elevated, and the thigh bent upon the pelvis, I commenced the operation (assisted by Sir P. Crampton, Mr. Cusack, and Professor Porter) by a semicircular incision, beginning on a line with the last rib, and terminating nearly opposite the anterior superior spinous process of the ileum, and about an inch and a half internal to this process: its length was about five inches, the concavity towards the umbilicus; by this the integuments and superficial fascia were divided; the fibres of the external oblique muscle were then incised in the same direction, and next those of the internal oblique; by which the transversalis muscle was exposed. A cautious incision was made through the fibres of this muscle at the lower part of the wound, and a director endeavored to be introduced under them; this muscle, however, was found to be considerably hypertrophied, being double or treble its natural thickness. On arriving at the transversalis fascia, it was also found to be considerably increased in thickness, and presented almost a tendinous character; a portion of it was raised with a forceps, and cautiously incised: a director was then introduced, and an incision made sufficient to admit the finger, upon which this fascia was divided by a probe-pointed bistoury, both upwards and downwards. No artery was divided in this part of the operation requiring a ligature; the bleeding appeared to be altogether venous. The peritoneum was now very cautiously raised from the subjacent iliac muscle, by insinuating the fingers behind it, and this proceeding appeared to give much more pain than was expected. As the peritoneum was detached, Mr. Porter, with his hand in the wound, drew this membrane and the intestines towards the opposite side; the separation of the peritoneum was continued until my finger reached the upper extremity of the external iliac artery; and the expected difficulty from the protrusion of the intestines was much less than had been anticipated.

After a short time I succeeded in getting a view of the vessel, and as it appeared to be perfectly healthy, its sheath was opened to a small extent by means of the blunt extremity of a director; and Mr. Trant's aneurism needle was then passed under the artery, from without inwards, without much difficulty; and here the advantage of his instrument was fully proved, for as soon as the eye of the needle appeared at the opposite side of the vessel, the ligature was drawn up by it, which, owing to the depth of the wound and the distance of the artery from the surface, must have been attended with delay and difficulty had the common aneurism needle been employed: a single silk ligature was used, and as soon as it was tightened the pulsation in the aneurism ceased. The edges of the incision were then brought together by the interrupted suture and adhesive plaster. The operation was completed in little more than thirty minutes.

The patient was then placed in bed, with a pillow under the ham, in order to keep the thigh flexed upon the pelvis: and sixty drops of laudanum were administered. He complained of a sensation of cold in both lower extremities, and to the hand they felt colder than natural: this probably arose from the unavoidable exposure during the operation. Additional covering was employed, and jars containing warm water directed to be applied to the soles of the feet.

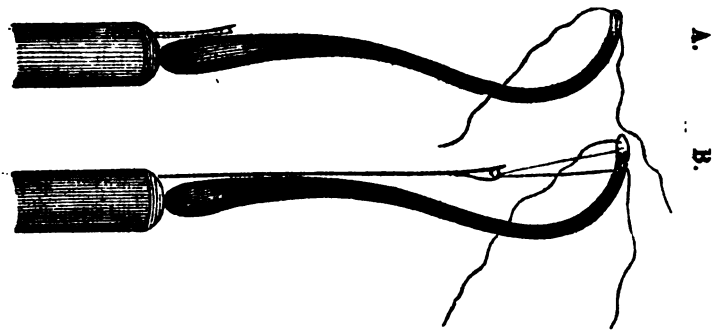
[The ligature came away on the twenty-fourth day without any hæmorrhage,

and the patient ultimately did well. Dr. Bellingham remarks that the incisions were made with a view to apply a ligature to the common iliac artery, as it was supposed that the external iliac was not sufficiently sound between the aneurism and the bifurcation of the former vessel, and at the moment, he was under the impression that the ligature had been placed upon the common iliac.]

The present case appears to be the only one in which the external iliac has been tied for aneurism of this vessel, or in which a ligature has been placed so close to the bifurcation of the common iliac. In fact most writers lay it down as a maxim (in placing a ligature upon a large vessel) to tie it at a sufficint distance from a collateral branch to allow of the formation of a coagulum above the ligature; the internal coagulum being supposed to have a material share in the process by which the artery is closed, and hæmorrhage more frequently following the operation when a ligature is placed close below, than at some distance from a large collateral branch. Indeed, Roux (in his parallel between English and French surgery) has related a case which he witnessed in London, where the external iliac artery was tied by Sir A. Cooper, and the patient died of hæmorrhage a fortnight afterwards: on examination it was ascertained that the obturator artery (which usually arises from the internal iliac) proceeded from the external, and arose immediately above the point to which the ligature had been applied. However, though the nearness of a collateral branch may interfere with the formation of a coagulum, it does not necessarily prevent the adhesive process from closing up the vessel. Mr. Travers, in the sixth volume of the Medico-Chirurgical Transactions, concludes, from a series of experiments which he performed, "that after the proper application of a ligature, the adhesive process is established in an arterial tronk in equal time, whether its branches are contiguous or remote." Indeed the recovery of the patient in this case shows that a large artery may be successfully tied at the distance of half an inch from the point at which a branch of nearly equal magnitude comes off.

The aneurism needle is generally directed to be passed from within outwards, in order to avoid the vein; in the present case, however, the vein was not seen at all, and the needle was passed with great facility from without inwards; and, as I have already observed, the hooking the loop of the ligature, owing to the depth of the wound, and the distance of the artery from the surface, would have been necessarily attended with delay and difficulty, had I not employed Mr. Trant's aneurism needle; the great advantage of which instrument consists in its seizing upon the ligature, although completely out of sight, as it is so constructed that it can take up nothing but the ligature, and it cannot fail to draw it up, though the wound may be full of blood at the time.

Dublin Journal of Medical Science, Jan. 1843, *p.* 227.



[We subjoin a sketch of Mr. Trant's aneurism needle, and must refer the reader for a fuller description to the Dublin Medical Press for November, 1839.]

"The aneurism needle, when about to be used, is arranged as shown in figure A. The ligature is seen held in a direction parallel to the needle, for

about one fourth of an inch near the point, and at right angles with an imaginary line drawn from the point where the hook issues from the handle, meeting the ligature held in the needle.

"Figure B shows the instrument as having been passed under the artery; the spring-hook is supposed to have been projected to the point of the needle, and having seized the ligature held at right angles, the operator is understood to be in the act of drawing up the ligature to him by the spring-hook, controlled by a stud made fast to the stem of the hook, and passing through the handle of the instrument."

88.—Remarks on SEMINAL AND OTHER DISCHARGES FROM THE URETHRA. By BENJAMIN PHILLIPS, Esq., F.R.S., Surgeon to St. Marylebone Infirmary.

[Eleven years ago Mr. Phillips, at the suggestion of M. Lallemand, first applied lunar caustic to the mucous membrane of the urethra to check involuntary seminal discharges.]

Involuntary discharges are for the most part, if not altogether, caused by irritation set up in or about the ducts connected with the testicle. In some cases it may be doubtful whether the irritation by which they are excited may not have its seat in the rectum; primarily there is no doubt it may, but other cases would lead to the supposition that secondarily the mucous membrane of the urethra itself may suffer, and that, when the irritation in the rectum has ceased, that of the urethra may still keep up the mischief.

There are particular modes in which the urethra irritation is commonly excited; among these, masturbation holds a prominent place: by this practice the constant excitement of the seminal ducts ends by establishing a permanent irritation there: it may likewise happen from excess in sexual intercouse. Next to this cause we arrange gonorrhœa or gleety discharges, which, from time to time, establish chronic inflammation in the vicinity of the orifices of the ejaculatory ducts. Then follows stricture, which, by opposing an obstacle to the free passage of urine, ultimately causes the development of a morbid condition of the mucous membrane between the stricture and the bladder. The same state of these organs may result from irritation within the rectum; that irritation may be caused by fissures or piles, or by the presence of ascarides.

It is said that other causes are capable of inducing the same disordered action of the sexual organs, but as I profess in this place merely to point out such as have come within my own observation, I do not propose to consider others.

The mode in which the irritation, once set up around the orifices of the ejaculatory ducts, acts, is very much the same as obtains upon the application of irritation to the mouths of other ducts: it solicits increased action in the organ with which they communicate. Irritate the bladder and the kidneys are stimulated to increased action; irritate the conjunctiva, and the lachrymal secretion increases; irritate the duodenum, and it is said bile will be supplied in increased quantity; it is unnecessary to carry the illustration further.

How does masturbation induce this irritation? Within moderate limits it would not do so; but if you give any canal too much to do, you will ultimately develope irritation in it, more especially at its orifice. If urine be passed too often, in cystisis for instance, the orifice of the urethra becomes red, and the same thing happens to other conduits: it is in this way that masturbation or sexual excesses may develope irritation at the mouths of the ejaculatory ducts: it is in that way increased secretion is determined in the testicle; and thus involuntary discharges, consequences of masturbation or excesses, is explained.

It is easy to explain how gonorrhœal discharges may induce a similar state of things; in many cases, and especially when the discharge is obstinate, the inflammation upon which it depends is extended backwards until it reaches the neighbourhood of the prostate; where it may excite, on the one hand, the kidneys, on the other the prostate, and on the third the testicle, inducing each of those organs to furnish more than its accustomed supply. That the inflammatory action under these circumstances is likely to fix itself there, is shewn in two ways—the existence of stricture so commonly near that region, and the acute pain experienced beyond the curvature when a bougie is passed. Often the in-

flammation may extend to the bladder itself. Often it passes along the spermatic ducts to the testicle.

When the involuntary spermatic discharges are caused by stricture of the urethra, the immediate exciting cause is the same as when they are consequences of other circumstances; irritation of the mouths of the ejaculatory ducts. The irritation is then caused by the obstacle to the passage of the urine, and a state of chronic inflammation may be developed along the mucous membrane from the stricture to the neck of the bladder, and may even extend into that organ, or along the ejaculatory ducts. Irritation within the rectum, when long continued, may extend to the sexual organs, and occasion the discharges which we are considering. In some cases the source of irritation of the sexual organs may continue to be confined to the rectum, and when that ceases the spermatic trouble may also cease; but in other instances the spermatic disturbance may persist after the irritation of the rectum is cured. There is no difficulty in accounting for this circumstance; the irritation, originally anal, has ultimately become urethral also, and will only yield to treatment directly applied to that part. Every experienced surgeon has had ample opportunities of observing the intimate sympathy which exists between the bladder and the urethra, and the rectum. How an irritable bladder may make an irritable rectum; how piles, or other affections of the rectum, will occasion trouble in the bladder; how the application of caustic within the urethra will now and then induce spasm of the rectum; how, in the efforts made to empty the bladder, in many cases of stricture, a corresponding effort will be made by the rectum; it may not always be easy to explain, but they are facts commonly observed. In most cases the evidence of involuntary spermatic discharges is clear enough, but the time comes when the ejaculation is unaccompanied by the ordinary sensations, and the patient may then be unaware of the extent of the evil. I have again and again known cases where the spermatic fluid passed out with the urine; others, in which the efforts at stool caused a pressure to be made upon the distended seminal vesicles, and thus their contents were squeezed out; but the fluid may not pass untill the process of buttoning up is going on, and the evil may be undiscovered. Still, unless the disorder be very advanced, in most cases the person himself is aware of it when it passes with the urine, because it almost always passes with the last drops, and can then be detected, and because a certain sensation is experienced about the neck of the bladder. But when the medical man is consulted, he calls for the recently passed urine, or requests that it may be passed in his presence, and at the bottom of the vessel he perceives small granular diaphanous particles; and they are seen floating even before the urine cools; if the evil be however very advanced, no peculiar sensation is experienced, and the granular matter may be undetected, and may assume a more uniform cloudy appearance. In cases where uncertainty remains with regard to the deposit, we may advantageously have recourse to the microscope, by means of which the little long-tailed animalcules of the spermatic fluid can readily be perceived. Under any debilitating causes, whether those causes be found in frequent spermatic discharges, disease, or old age, the fluid becomes much thinner, and the animalcules much less numerous, and they may be almost, if not altogether, wanting.

One of the general symptoms resulting from too frequent spermatic discharges, which is most distressing to the sufferer, is a state approaching to, if not at the time, actual impotency. It is not that the seminal fluid, though deteriorated, is incapable of determining fecundation, but it is that the organs are wanting in the energy necessary for projecting the fluid into the uterus; the erection of the penis, if it exist at all, being only momentary. The digestive functions become deranged; the bowels constipated; nutrition languishes; respiration is troubled; the voice fails; the heart's action is interfered with, even to such an extent as to induce the belief of actual disease in that organ, and hypochondriasis becomes complete. These things do not advance far without causing trouble in the nervous system, manifested by some perturbation of the senses, by headache, with great sense of weight or pressure, and they are accompanied by loss of memory a timidity and apprehension which are very painful.

It must be evident to every one who takes the trouble to reflect on these things, that as the causes of these discharges are many, the treatment must also be variable. When the irritation is in the rectum, the case will require a very different course of treatment to one proceeding from stricture of the urethra. We will therefore make such general remarks as are proper with reference to the treatment of the several varieties of the affection which we have considered. First, when the cause is masturbation or sexual excess:—the causes here are voluntary; the cure must also be voluntary. Lunar caustic will be powerless unless the patient has sufficient determination to abstain from the practice. But in many cases perfect abstinence will not suffice to put an end to the mischief; the *voluntary* discharges are got rid of, but they were persisted in so long that a permanent irritation has been set up in the verumontanum, and that irritation may, as we have already explained, excite equally injurious *involuntary* discharges: and here a remedy must be found by the surgeon. The first thing we have to do is to introduce cautiously a bougie, to pass it down towards the bladder; but before it arrives there, the patient will complain of pain, which is sometimes very acute; and the point at which the bougie has then arrived is usually a little in front of the prostate. The surgeon must then carefully observe how far the penis has been extended, and a mark must be made upon the bougie to indicate the depth to which the instrument has penetrated, because that is the point upon which the lunar caustic must be applied. The depth to which we must penetrate must be marked upon the caustic instrument, which is then introduced and gently passed to the proper point, when the caustic is uncovered and the membrane brushed over: as soon as that has been done, the caustic is again covered, and the instrument is withdrawn. In some cases the patient complains of a little heat when the caustic is applied; in others, the sensation spoken of is a coldness. I have more than once known some discomfort almost amounting to spasm at the anus, but altogether it is astonishing how rarely any complaint is made. At the next time of passing the urine, more smarting is usually experienced; it may continue through the day, but it is very bearable. In all cases it occasions a discharge, which is sometimes considerable, and at first is thin and watery, but gradually becomes thicker, and in the course of a few days ceases. In a few cases the discharge is at first streaked with blood; and in a few rare instances there may be trifling hæmorrhage.

In most instances a feeling of improvement is early manifest, but the complete effect of the remedy cannot be estimated until the irritation has entirely subsided. Indeed, the amendment is almost always progressive, and frequently it happens, that when, by the end of the second or third week, not much benefit has been, apparently, derived, we are astonished by the change which has been brought about in another fortnight. If by the end of six weeks from the first application a very decided amendment, or a cure, be not produced, we may conclude either that an insufficient application of caustic has been made, or that the fatal habit is still persisted in. It has more than once happened to me to apply too little, but I have never had to accuse myself of applying too much. In any case a second application is indicated when the desired effect is not obtained from the first. More than two applications I have never had occasion to make; but I can easily conceive that circumstances might render a further recourse to the remedy proper. How the lunar caustic acts in extinguishing the morbid sensibility of mucous surfaces I cannot tell, but of its virtues in this respect few surgeons can be ignorant. Every day we apply it to modify the painful irritability of ulcers as well as that of certain affections of mucous membranes. If the affection has been caused by a gonorrhœal or gleety discharge, the treatment must be the same as in the former instance.

If it has been caused by stricture, we must first restore the canal to its natural diameter; and it may be that the morbid state of the mucous membrane behind the stricture will gradually improve when the obstacle to the passage of the urine is removed, and that with the cessation of that morbid state may also cease those spermatic discharges which have been caused by it. But this conclusion is not inevitable; the obstacle to the passage of the urine may be removed, but the morbid condition of the posterior part of the canal, which has resulted from it

may persist; so may the specific discharges. Then the efficacy of the lunar caustic can be at once demonstrated; and a single proper and sufficient application of the remedy, with the precautions already indicated, will, in most cases, promptly cure the disease of the urethra as well as that of the spermatic organs.

If the discharges be determined by irritation of the anus, or the rectum, appropriate means must be used to cure the intestinal disorder; and it may be that when that has ceased the spermatic disorder will also cease. But it may persist, because a distinct irritation may have been determined in the urethra by the long-continued action of that of the intestinal canal; and to dissipate that, recourse must be had to the lunar caustic, under the same restrictions as have been already pointed out. *Medical Gazette, Dec. 23, 1842, p. 452.*

[Case 1, was a young man, æt. 22, addicted to excessive masturbation, often twice a day, with frequent involutary seminal discharges. The consequence was, complete derangement of the whole system; the sexual organs were extremely lax, the structure of the penis offering no feeling of elasticity when pressed between the fingers, and the scrotum almost as thin as a piece of linen cloth, the testicles hanging very low. On passing a bougie beyond the curvature he screamed out, and this being the seat of sensibility, the lunar caustic was applied as above directed, with the happiest effects. It was necessary to apply the caustic only once. Case 2, was a gentleman aged 35, who formed an intimancy with a lady of rank in Russia, whose propensities were still stronger than his own. The consequence was the most unbridled excess in sexual indulgences. On his return to England, he formed a similar connexion, which he only gave up when he found his health giving way. The seminal discharges were constant. On passing a bougie along the urethra, it was sensitive throughout, but especially so at a point in the neighbourhood of the prostate. In two days a bougie was introduced, in order to accustom the passage to the presence of a foreign body. The caustic was then cautiously applied without much inconvenience. In the succeeding three weeks, the discharge only occurred twice, once in the first week and once in the next fortnight. The case went on well in this respect, but he died of phthisis afterwards.

Cases 3, 4, 5, and 6, were nearly of the same character, with variation as to the cause; in all, however, the involuntary seminal discharges formed the the chief feature in the disease, with some tender part of the urethra. The caustic was invariably beneficial. Mr. Phillips ends his valuable paper with the following remarks:]

1st. It is necessary that the habits which have led to those discharges should be discontinued; any means will be powerless if the practice be persevered in. 2dly. When the primary cause of the affection has ceased, it is necessary to examine the urethra with an exploring instrument; and for the purpose I prefer an elastic catheter. The point where the pain is most acute must be accurately noted. The instrument must then be passed on carefully until urine passes along it. Observe how far it has penetrated, and having noted this, you must arrange your caustic apparatus so that it shall not reach so far by an inch, because the prostatic portion of the canal is not commonly implicated in the irritation. The point upon which the caustic is to be applied is, as near as practicable, about the region of the orifices of the ejaculatory ducts.

It may be asked, why pass the instrument on to the neck of the bladder at all, and why state that an inch in front of the neck of the bladder is the point beyond which the caustic instrument shall not penetrate? Why, again, the spot where acute pain is indicated, during the passage of the bougie, may not be regarded as the proper place for applying the caustic? In many persons the urethra is very sensitive, and the patient complains so frequently, that a little difficulty is experienced in deciding with that test; but when you have ascertained that from the orifice of the urethra to the neck of the bladder is seven inches and a half, and when you further find that in the passage of the bougie the most acute pain was experienced at a little more than six inches from the orifice, you can then, with much confidence, cauterise the space between the sixth and seventh inches, satisfied that the orifices of the ejaculatory ducts will

not escape. It may be thought by some persons that all these precautions are unnecessary: this may be true: but off-hand surgery I dislike; and if in one case, by the neglect of such attention, I cauterised the neck of the bladder, and in another case applied the caustic entirely in front of the seat of mischief, my conscience would not acquit me of blame.

The foregoing precautions having been taken, the caustic must be exposed, and slightly revolved along the floor of the urethra for half a minute, without fear of harm, and rarely does it excite much pain—very rarely, indeed, does the patient complain of it. A few days ago I passed a bougie very gently along the urethra of a young man, but it produced syncope. When the caustic was applied a few days afterwards, the morbid sensibility was immediately blunted. Usually a smarting is experienced when the urine passes along the urethra, after the caustic is used, but it rarely continues troublesome over twenty-four hours.

Before that time, usually, a thinnish discharge comes on, which may be profuse, and may be, though very unfrequently, streaked with blood. After a few days it begins to abate, and by the time it has ceased the change for the better in the patient's condition seems strikingly manifest. It is always necessary to guard the patient against impatience, because four or five weeks will, in some cases, pass, before the beneficial effects of the remedy become clearly evident; and this is the more necessary, because he looks with intense anxiety to the result; and sometimes it happens that a single discharge, after the application of the caustic, will dash the cup of hope from his lips, and induce the most gloomy forebodings. I may again repeat what I have said before, that I have never applied too much caustic, but I have more than once failed by using too little; and much experience is necessary to apply the proper dose. However, it is better to err on the safe side, until experience shall have given confidence in the use of the remedy. I have scarcely ever had recourse to a second application until five or six weeks have passed, and given the assurance that the first has been insufficient. *Medical Gazette, Dec. 23, 1842, p. 452, and Jan. 20, 1843, p. 586.*

[Since the publication of these remarks by Mr. Phillips, the treatise of M. Lallemand "On Involuntary Seminal Discharges" has been reviewed in the British and Foreign Medical Review, but as the treatment therein recommended is very similar to that adopted by Mr. Phillips, we need not again dwell upon it. The reviewer remarks that M. Lallemand may possibly be surprised that the armed bougie was adopted in similar, if not identical cases, by Sir Everard Home more than forty years ago. The following is the experience of three British surgeons on this subject, communicated to the reviewer by letter. One gentleman writes as follows:]

"I can recollect eleven cases in which I have found Lallemand's treatment successful, and one in which it did not completely succeed. In seven of the eleven cases a single application of the caustic was enough, in four it was necessary to apply it a second time; in a single case two applications were insufficient to cure the disease, although the improvement was very great.....The effects are immediate. A person in whom the discharge has continued for months, will have none for some days after the use of the caustic; but in some cases, as the irritation subsides, it will come again."

"I have carefully noted," writes another gentleman, "*twenty-seven* cases treated by the nitrate of silver, either applied in the solid form to the prostatic portion of the urethra, or used in the form of injection. Of these cases, thirteen were completely cured; eight so much benefitted that the emissions only only returned occasionally and produced but little effect on the system; and the remaining five benefitted by the period between the emissions being lengthened, though not to the same extent as the cases in the second series. The application of the solid nitrate, in many cases, produces very great irritation, sometimes complete retention of urine for a short period; in others, inflammatory irritation with bloody urine, lasting from eight to ten days and even longer. These circumstances lead me to use solutions of the salt, one or two grains to the ounce, advising the patient to inject several times at intervals of three and four hours, till a marked irritation was brought on; then to discontinue the remedy for a time and to have recourse to it again if the cure was not effected,

when the irritation has subsided. The injections used in this way produce often great irritation and bloody urine, which continue sometimes many days. They have, however, in almost every instance, a beneficial effect upon the emissions."

A well-known and experienced Scottish surgeon observes:—"With regard to Lallemand's method of cauterizing the urethra, I have tried it in above a dozen cases, and in the majority of them with decidedly good effects. In those distressing cases of irritability of the bladder, where the prostatic portion of the urethra is chiefly affected; in certain cases of chronic disease of the mucous membrane of the bladder, and in that very prevalent and debilitating complaint to which young men are subject, nocturnal emissions, the efficacy of the practice is sometimes very striking. In the latter case, when the cauterization of the prostatic portion of the urethra fails, I have been lately in the habit, from a knowledge of the very intimate sympathy subsisting between the parts, of applying the cautery to the external orifice of the canal, and for about an inch down, and I think, in some cases, with more decided advantage."

The last communication we shall quote is the following:—"I have employed the caustic in several cases in private and at the hospital, and I entertain a very favourable opinion of its efficacy: indeed, in some instances, its good effects have been quite remarkable. I have used it successfully in cases of seminal emissions from self-abuse, sexual excesses, or in case of obstinate onanism, which affections appear to be attended with, and partly kept up by, a morbid state of the prostatic part of the urethra. After using the caustic, I have found benefit from small doses of cubeb powder (gr. x.—xxx.) combined with the tincture of hyoscyamus, and also from steel medicines; the patient practising, of course, the most rigid self-denial in respect to the cause of the complaint. The patients upon whom I have employed the caustic, have not experienced the severe effects described by Lallemand as 'occasionally' resulting from it. The application which I make is always slight and transient, and the effects of it subside in a day or two. I have never had occasion to apply leeches to the perineum afterward, and in no case has swelling of the testicles been produced by it. The hip-bath and rest is all the treatment usually required; but I am generally obliged to make two or three applications of the nitrate of silver, and sometimes more before the complaint is wholly removed."

In regard to caustic injections as practised by the gentlemen whose notes we have quoted second and third, we have ourselves had no experience in *this* complaint, though of course, in common with every practitioner, we have times without number ordered them in gonorrhœal and blenorrhagic discharges. We are disposed to think that the former of these two gentlemen considerably overstates the effects of cauterization as they usually manifest themselves, and we are also disposed to believe that the application of the solid caustic to the deep part of the urethra is less irritating and more effectual than the application of it in solution and to the outer part of the urethra.

The space which M. Lallemand usually cauterizes, is from the neck of the bladder to the membranous part of the urethra; but sometimes he brushes over the internal surface of the bladder itself to a greater or less extent. He cautions us strongly against repeating the operation too soon; and advises us to wait two or three weeks before we re-apply the caustic. Many of his cases appear to have been cured by a single application. Pain, and a slight discharge of blood, but never amounting to hæmorrhage, seem to have followed some of his operations; but these consequences disappeared at the end of from twelve to forty-eight hours. In one case they are described as lasting three weeks, but this is mentioned as a rare exception. When the emissions have been *diurnal*. M. Lallemand regards the conversion of them into *nocturnal*, and the fact of the emissions being once more accompanied with erections and with pleasurable sensations, as a sign of the favourable effects of treatment and prospect of cure.

We shall now, with great brevity, advert to other modes than cauterization, of treating involuntary seminal discharges, depending *solely* on chronic inflammation of the prostatic portion of the urethra and of the vesiculæ seminales. The daily introduction of a bougie, and the retaining it for a longer or shorter time in the urethra, may first be mentioned. This, as our own observation enables

as to testify, is often useful. Leeching of and blisters to the perineum are by means of no slight efficacy, especially where the prostate is tender and enlarged. We have also prescribed tartar-emetic frictions of the perineum with excellent effects. A total abandonment of masturbation and a moderate use, or even an entire though temporary disuse of coition, are, of course, indispensable measures. One of our correspondents states that he has found opiates extremely useful. They are so in most cases though not in all; since they sometimes seem to augment the disease. Conium is safer: and both it and opium may be used both constitutionally and as a suppository. Cold clysters are often of benefit. As regards general means, alcoholic and malt liquors must be abandoned. M. Lallemand's opinion of these is exceedingly hostile; and we believe he is right in this. The food should be nourishing, light, and unstimulant; the bowels should be of course attended to, and, as a general rule, country air and exercise prescribed. Among medicines and articles of diet, tea and coffee in excess, tobacco, camphor, nitrate of potass, aloes, must be abstained from. *British and Foreign Medical Review, April*, 1843, *p.* 357

59.—TREATMENT OF GONORRHŒA....By Bennett Lucas, Esq.

In the case of William ——, I injected a strong solution of nitrate of silver when he first presented himself, and repeated it the next day; these two injections were sufficient for his cure. With whom this practice originated I cannot tell, but as long ago as the year 1833 I published some cases illustrative of the safety with which it might be adopted in proper cases, and the almost certainty in such of its producing a cure. Since that period I need scarcely tell you I have had many opportunities of testing the efficacy of this treatment, and the result is that I can conscientiously recommend it to your notice. At the time I published the cases I appended some remarks to them, which are pertinent to the present occasion. "It is only in the first stage of gonorrhœa that this injection will be of benefit; in gleet it failed altogether; and in the inflammatory stage of the disease, when severe scalding, chordee, &c., are present, I would not be hardy enough to make use of it.

"The manner in which nitrate of silver acts so effectually in the cure of gonorrhœa in its first stage, must be by destroying the specific virus, and substituting in its place a simple inflammatory action, which gradually subsides, leaving the urethra in its natural healthy state. To effect, therefore, this object, it is necessary that the injection fully reaches the seat of the disease, and that it be well applied to the portion of the urethra between this part and the orifice. I can readily conceive a case where the injection only reached half an inch from the orifice, or was only partially applied, leaving the virus still in operation, the parts not only having to contend against its action, but also against the inflammation produced by the injection. Such is likely to be the case if the surgeon commits the syringe to the hands of his patient; and such actually occurred in one case, where, from an imperfect application, great pain followed, extending along the urethra to the prostate gland, accompanied by all the symptoms of the second stage of the disease in an aggravated form; which symptoms could not have been much relieved by the patient having taken internally a mixture of balsam copaiba, cubebs, and camphor mixture. I, therefore, always apply the injection myself in the following manner:—Having filled the syringe, I compress the urethra with my left hand, about two inches and a half from the orifice, to prevent its reaching further, and taking the syringe in my right hand I inject the solution, satisfying myself that it is well applied to all the intermediate portions of the canal. In conclusion, I would again impress the danger of using the remedy in the second stage of gonorrhœa, the success amounting almost to certainty of its curing it in its first stage, and its failure in gleet."

To these remarks I shall now only add, that at first I used the solution of nitrate of silver in the proportion of ten grains of the salt to an ounce of distilled water, but that now I use it double this strength, and sometimes even in the proportion of thirty grains to the ounce. I have tried it in other forms for the same object. such as made up into a kind of ointment with lard, but none answers so well as the solution. The syringe which you should use in injecting it should

be made of glass or ivory; if you attempt to use a metal syringe, the moment it comes in contact with the solution a black deposit takes place, you dirty the patient and yourself, and all goes on unsatisfactorily. A caoutchouc bag, armed with an ivory pipe, in the absence of the glass syringe, you will find the best instrument; but the latter is far preferable, and not the least of its recommendations is, that you see the exact quantity of fluid you inject.

Provincial Medical Journal, March 4, 1843, p. 444.

60.—ON AMPUTATION AT THE ANKLE JOINT....By JAMES SYME, Esq.

John Wood, aged 16, recommended by Mr. Aitchison of Dunbar, was admitted on the 8th of September, 1842, suffering from disease of the foot, which had suppurated and ulcerated, in consequence of a twist he had given it in walking about twelve months before. On the instep, which was very much swollen, there were two openings that permitted a probe to enter freely into the substance of the tarsal bones, and more particularly the astragalus and os calcis. In these circumstances, it was plain that the patient, already much emaciated and reduced in strength, had no chance of recovery except from amputation.

As the disease extended beyond the limits of Chopart's operation, it would have been necessary, in accordance with ordinary practice, to remove the leg below the knee, but as the ankle-joint seemed to be sound, I resolved to perform disarticulation there. With this view, I cut across the integuments of the instep in a curved direction, with the convexity towards the toes, and then across the sole of the foot, so that the incisions were nearly opposite to each other. The flaps thus formed were next separated from their subjacent connections, which was easily effected, except at the heel, where the firmness of texture occasioned a little difficulty. The disarticulation being then readily completed, the malleolar projections were removed by means of cutting pliers.

The patient suffered no constitutional disturbance, or any alarming symptom after the operation, but recovered slowly, as was to be expected, from his general weakness, and the unhealthy state of the soft parts composing the stump. A small slough separated from the edge of the lower flap, in which, as well as the upper one, I found it necessary, during the healing process, to make a counter opening for the free discharge of matter. He was dismissed on the 2d of December, and I learn from Mr. Aitchison that he continues quite well. The wounds are soundly healed; and any degree of pressure can be borne by the stump, which has a round form, well suited for the adaptation of a boot or artificial foot, and is strongly protected from external injury by its thick integuments.

The result of this case is very encouraging to the performance of amputation at the ankle-joint—an operation of greater importance than at first sight may appear, since, if found to be practicable with safety and success, it should in a great measure supersede amputation of the leg below the knee. The circumstances requiring this operation seldom affect the leg itself, because the limb, if so seriously injured or diseased as to require amputation, must almost always be removed above the knee. But while compound fractures and malignant tumours of the leg are thus in general subjects for amputation of the thigh, diseases and injuries of the foot have too frequently claimed amputation of the leg. Modern surgery, no doubt, has circumscribed this field for the operation, by introducing partial amputations of the foot, but there still remain cases of no rare occurrence which are held to demand its performance.

When caries attacks the metatarsal articulations of the toes, it is usually confined to a single joint, that of the great toe being the one by far most frequently affected; and Mr. Liston's happy employment of straight-cutting pliers, instead of the variously formed saws previously in use, for dividing the bones, has rendered removal of the disease from this situation so easy, that the old practice of amputating the leg on such occasions seems hardly credible. If the caries again be seated at the other, or proximal extremity of the metatarsus, it is sure to engage also the adjoining tarsal bone or bones, and therefore the operation suggested by Mr. Hey of Leeds, which was to disarticulate the metatarsus from the tarsus, is not applicable. In many cases, however, as only one of the tarsal bones is engaged, it may be taken away with the corresponding part of the m[illegible]

tarsus, so as to render the foot merely narrower, without diminishing its length. Thus the first metatarsal is removed along with the internal cuneiform bone, and the os cuboides with the two metatarsal bones articulated to it. But the operation of Chopart, which leaves only the astragalus and os calcis, is the most valuable of all partial amputations, as it commands the largest portion of the foot requiring removal for disease or injury, and at the same time preserves a support for the patient not less useful than that which is afforded by the whole of the tarsus. Its introduction was long opposed, on the ground that the extensor muscles of the ankle acting through the tendo achillis, when no longer antagonised, would draw up the heel and point the cicatrix to the ground. I performed this operation in 1829, so far as I know for the first time in Edinburgh, and have frequently done so since, with the most satisfactory result, no inconvenience having ever been experienced from the source just mentioned, as the cut extremities of the tendons on the fore part of the joint speedily acquire new attachments, enabling them to counteract the extensive power.

But when caries affects the astragalus, or os calcis, or, as very frequently happens, is seated in the articular surface between these bones, no form of partial amputation can be of any avail, and attempts to cut out the diseased bone generally prove unsuccessful. In cases where the tuberosity of the os calcis is alone affected, excision may be executed completely and certainly; and it is sometimes, though rarely, possible to extirpate the disease, even when it extends to the articulation, either directly by gouging out the carious part, or by making a perforation through it across the foot, and passing a seton, which may be made the vehicle of suitable applications, such as the red oxide of mercury, the mineral acids, or a saturated solution of the nitrate of mercury. When these means fail, or are abstained from, in despair of their efficiency, amputation of the leg is the more ordinary resource, and the same measure is of course considered necessary for similar disease of the ankle-joint. In the case of compound dislocation of the astragalus, with or without fracture of the malleoli, it is deemed proper, in the first instance, to give the patient a chance of retaining his limb; unless his habit of body, or the circumstances in which he is placed, should be unfavourable for his recovery, when prudence is thought to require amputation of the leg.

It thus appears that compound dislocation of the astragalus, and caries of this bone, with its adjoining articulating surfaces, are the principal cases for amputation of the leg, and that consequently this operation may usually be superseded by amputation at the ankle-joint. It may be objected that, when the joint itself is diseased, entire removal of the articulation must be requisite. But in what is commonly called disease of the ankle, the joint between the astragalus and os calcis is affected much more frequently than that between the astragalus and bones of the leg; and even when the latter condition really exists, it would be easy to remove all the bone that is essential for recovery, by sawing off a slice from the articulating extremities of the tibia and fibula, as the caries penetrates to no great depth of the cancellated texture. The advantages promised by amputation at the ankle-joint, instead of the operation near the knee, are—1st. That the risk of life will be smaller. 2. That a more comfortable stump will be afforded. 3. That the limb will be more seemly and useful for progressive motion. The risk of life must be less, because the parts divided and removed are not nearly so extensive as when the leg is amputated, hardly exceeding, indeed, those concerned in Chopart's operation; because there is less room for hæmorrhage, either immediate or secondary, owing to the smaller size of the vessels cut, which are merely the branches of the posterior tibial, and the anterior tibial artery, very near its termination; and because the cavities of cylindrical bones not being opened, the danger of exfoliation from the dense osseous texture, and of inflammation in the medullary veins, is avoided. The stump will be more comfortable, because it is formed of parts peculiarly well calculated to protect the bone from injury, and not disposed to contract like the muscular tissue; because the cut extremities of the nerves being smaller, will be less apt to enlarge and become the seat of uneasy sensations; and because the absence of exfoliation insures complete union of the integuments over the bone. And the limb will be more

useful, as well as seemly, from full play being afforded to the movements of the knee-joint, without the embarrassment of an imperfect stump.

On these grounds, I think amputation of the ankle-joint may be advantageously introduced into the practice of surgery. I regret having cut off many limbs that might have been saved by it, and shall be glad if what has here been said in its favour encourages others to its performance.

Lond. and Ed. Monthly Journal of Med. Science, Feb. 1843, *p.* 93.

[Mr. Syme relates the following case in a subsequent number of the same journal, in confirmation of the opinion that "it would be easy to remove all of the bone essential to recovery by sawing off a slice from the articulating extremities of the tibia and fibula, as the caries penetrates to no great depth of the cancellated texture."]

Dr. W., a medical gentleman, about 25 years of age, after suffering from general rheumatism, was twelve months ago attacked with severe pain in the left ankle, accompanied by swelling and inability of using the limb. Various remedies were used without much benefit. An abscess opened in the course of the summer, and continued to discharge from a sinus between the ankle and heel. Six weeks ago I saw him with Mr. Goodsir. He was much reduced in strength, and greatly emaciated, obtaining no rest except through the use of opiates, and evidently sinking under his protracted sufferings. In these circumstances, amputation appeared to offer the only hope of relief, and even this measure, if carried into effect at the usual part below the knee, threatened no small danger in the patient's weak and irritable state. I proposed disarticulation; and meeting with no objection, performed it as described in my former paper. The articulating surfaces of the joint being everywhere divested of cartilage, rough and carious, instead of removing the malleolar projections separately, I exposed the bone sufficiently to saw off both together, with a thin lamina of the tibia connecting them. This was effected with the greatest facility, and left a perfectly sound surface. No constitutional disturbance followed, the patient improved in strength as well as appearance every day after the operation, and the healing process proceeded most satisfactorily. There is now merely a slight watery discharge from the cavity of the flap, as happened in the former case, and required counter openings for its vent. But these have been rendered unnecessary on the present occasion, by an opening through the integuments of the heel, which was found unavoidable in dissecting them from the bone, owing to their thinness and firm adhesion. The drain thus afforded has proved so useful by permitting a free escape to the discharge, and allowing the edges of the flaps to unite throughout their whole extent, that I think its intentional establishment would always be advantageous. *Ibid, April,* 1843, *p.* 274.

[The following case, illustrative of the power possessed by nature in effecting the restoration of injured joints, and the wonderful rapidity and perfection with which that process appears to have been effected in this instance, is deserving of attention, and is a most interesting fact, both in a pathological and physiological point of view. The safety, too, with which the operation for excision of the head of the humerus may be performed, even under circumstances somewhat unfavourable, together with its decided superiority over that of amputation at the shoulder-joint, whenever the latter may be at all dispensed with, must arrest the attention of every observer.]

Case.—About the latter end of February, 1840, a Hindoo soldier, aged 21, attached to one of the regiments stationed at Candahar, in Affghanistan, disgusted at having been addressed in a surly manner by a subordinate native officer, went at once to his quarters, and throwing himself on his bed, discharged his loaded musket into his left shoulder, pressing at the same time the trigger with the toe. On examination of the man, half an hour after the occurrence, two circular wounds on the left shoulder were observed, corresponding to the entrance and exit of the bullet—one about an inch below the coracoid process of the scapula—the other, larger and more ragged, immediately beneath the outer angle of the acromion, the edge of which was torn off. Through the latter, the finger was easily passed into the joint, where it encountered synovial membrane and rough fragments of the shattered bone. Not knowing to what extent

lesion of the parts more immediately connected with the vitality of the limb had taken place, and the hæmorrhage being moderate, I contented myself with enlarging the wound made by the ball's exit, for the purpose of relieving tension of the swollen parts, and for admitting of the extraction of a piece of bone, the size of a hazel-nut, which proved to be a portion of the articulating surface of the humerus. Under the use of cold water dressing, and moderately active antiphlogistic measures, the inflammation, &c., gradually subsided, and the wounds healed, with the exception of two fistulous openings, giving passage occasionally to small portions of bone, and discharging matter, which, becoming rather profuse, and the man's health rapidly declining in consequence, an operation for the removal of the splinters of bone and head of the humerus was determined on, and performed on the 10th of April, six weeks after the infliction of the injury, in presence of Messrs. Colquhoun, Lock, and Healey, of the Bengal service. The patient seated and supported with his arm a little removed from the side; a perpendicular incision, from the point of the acromion, nearly to the insertion of the deltoid, was made down to the bone, on which venous hæmorrhage to considerable amount took place. On drawing asunder the edges of the wound, the lacerated articulation was brought into view, enveloped in a dense mass of fibro-cartilaginous substance, the result of the previous injury and inflammation. Numerous fragments of bone were removed (twenty in number) as they presented themselves to view, and the disengagement of the fractured head of the humerus was attempted, but the strong cartilaginous adhesions surrounding the bone rendered that impossible. In order to accomplish this step of the operation, a transverse incision, to the extent of three inches, was next made, at right angles to the former, through the deltoid posteriorly, an inch and a half below the acromion, when, with a probe-pointed bistoury guided on the fore-finger, the dissection was carefully continued all round, and after some time the insulation of the head of the bone completed sufficiently to admit of a plate of metal being passed behind it, for the protection of the soft parts preparatory to the application of the saw. The man now became faint, and while in that state the head of the bone was partially turned out and taken off. The whole of what is denominated the anatomical head and neck had been shot away, and an oblique fissure ran through the portion of the bone, which was removed an inch and a half below the tubercles, with a common amputation saw; the glenoid cavity not being injured, was left untouched. On clearing the cavity of the wound from fragments of bone, here and there impacted in the substance of the soft parts, the posterior circumflex artery was cut, pressure above the clavicle commanded the hæmorrhage, and the vessel was secured. The lips of the wound were now brought into apposition, and secured by means of four sutures, and straps of adhesive plaster, covered with lint soaked in compound tinct. benzoin. A pad was placed in the axilla, and the arm supported in a sling, and secured to the side by a bandage; copious suppuration of healthy matter was soon established, and the man continued to improve daily, so that at the end of a few weeks the wound was almost entirely cicatrized, and he was beginning to make use of the hand and forearm. At the expiration of three months and a half his health was completely re-established, and he had become fat and strong. The use of the hand and fore-arm was complete, and he could already separate the elbow from the side to the extent of six or eight inches. No perceptible difference in the length of the two limbs was observable. A very slight oozing of matter still continued from a fistulous opening in the site of the ball's entrance, arising probably from the presence of some small foreign body driven in by the ball. In February, 1841, ten months after the operation, Mr. Healy describes the man as exhibiting the same healthy, robust appearance, having recovered considerable power and use of the limb, which he was enabled to elevate, that is to say, at an angle of about 70°, nearly at right angles to the trunk, and bring it forwards almost to the natural limit. Scarcely any perceptible difference in the length of the two arms could be discovered; a minute fistulous opening existed, giving discharge from time to time to a few drops of matter.

Remarks.—A chain-saw is indispensable, I conceive, to render this operation

expeditious, when the parts have become at all consolidated by previous inflammation. Had the operation been performed immediately, or on the subsidence of the inflammation in the first instance, the difficulty experienced in disengaging the bone from the surrounding parts would, of course, have been avoided, and the operation much simplified. It is worthy of remark, as showing the danger of innoculation with the fluids of certain diseased parts, that while engaged in the above operation, I received a very slight wound on the fore finger, just sufficient to raise the skin, which nevertheless in a few days inflamed and degenerated into an obstinate phagedenic ulcer, causing considerable constitutional irritation, and terminating, after two months of great suffering, with loss of the joint. *Dublin Medical Press, Dec.* 14, 1843, *p.* 369.

61.—ON PILES....By R. A. Stafford, Surgeon to the Marylebone Infirmary.

Hæmorrhoids are an enlargement of the veins of the rectum, which become at first swollen and tense, and the blood contained in them remains coagulated, and thus a livid tumour is formed. At length, from the thickening of their coats, and from the coagulated blood contained in them becoming organized, they form excrescences on the internal surface of the gut, or at the verge of the anus. At first their parietes are very thin, consequently they are apt frequently to burst, when they bleed very profusely, and are then termed *bleeding piles*. When they do not bleed, they have vulgarly acquired the name of *blind piles*. Hæmorrhoids are divided into internal and external, and they may be in various states of disease, each of which will require different treatment. They may be mere excrescences, when the only inconvenience they give will be their presence as foreign bodies; they may be inflamed, when they become very painful and swollen, looking not unlike a cherry; they may be in a relaxed state, resembling a half dried red grape, and they may be ulcerated.

The causes assigned for hæmorrhoids are many. People of sedentary habits are the subjects of them; costiveness, by the pressure of the hardened fæces on the veins, will produce them; and any thing that may irritate the rectum—for instance, a drastic purge, containing aloes, scammony, &c. I have known persons who have never had piles before take aloes and scammony, and they have been in such a state that they could hardly walk for them. Piles, I have no doubt, are in some constitutional and hereditary, and that they descend from father to son from generation to generation. I have frequently questioned those who suffer from them, and they have informed me that either their father or mother has been afflicted with them, and that the disease has been handed down to them as a family complaint. No doubt, in such instances, the rectum is naturally weak. It has been observed that those who are affected by a disease of the liver, are frequently the subjects of piles. This may be accounted for by the connexion the hæmorrhoidal veins have with the vena porta. The liver being diseased, the circulation of the blood through this vessel is obstructed, and thus the hæmorrhoidal veins become congested. Any obstruction in the veins of the intestines will produce congestion of the veins of the rectum, and consequently hæmorrhoids; in short, whatever may impede the venous circulation of the viscera, may give rise to this disease. Those who have diseases of the lungs, also, are frequently the subjects of hæmorrhoids and diseases of the rectum. On examining many cases of hæmorrhoids which are presented to our notice, it could hardly be imagined that the excrescences which we see could ever have been connected with the veins, they are of so tough, hard, and even in some instances of almost a cartilaginous nature. I have seen piles so hard that their structure has resembled the gizzard of a bird when cut into, or have been not unlike the texture of brawn. No doubt the constant irritation, and the repeated attacks of chronic inflammation of the part, bring them ultimately into this state. When an individual is subject to hæmorrhoids, the first symptom he experiences is a sense of weight and fulness in the rectum. Heat and pain supervene, which is frequently followed by bleeding when he goes to stool. The piles now protrude at the anus, and are of a lesser or greater size, sometimes being inflamed, and sometimes not. When they are internal, there is pain in the sacrum, and a sense of weight and fulness high up in

the gut. There is also considerable difficulty of voiding the fæces, constant straining, and tenesmus. The treatment of piles varies according to the state in which we find them, and also whether they are internal or external. In simple piles, when they are external, and when there is no inflammation, laxatives internally, and astringents externally, are the best remedies. At first, perhaps, give a dose of castor oil, or an aperient of senna and manna, and sulphate of magnesia combined, or any other aperient, except aloes and scammony, which will answer the effect of relieving the bowels. After this order laxatives, such as the confectio sennæ alone, or combined with potass. supertart, or sulph. sublim., and desire the patient to foment with the decot. papaver alb., or sit over a bidet of warm water. Apply a solution of liq. plumb. acet. dil. Use a cooling ointment, such as cerat. plumbi acet., or if the hæmorrhoid requires being constringed, employ the ung. galli, the ung. oxyd. zinci, &c.; also, should they be in a relaxed state, desire the patient to use an injection of the decoction of the elm or oak bark, with the addition of alum in proper proportions.

In some cases it has been recommended by Sir Astley Cooper to puncture the pile with the point of a lancet, and squeeze out its contents. This should be done cautiously, for fear of hæmorrhage. In chronic piles the confectio piperis has been of great service, continued for some time. It appears to stimulate and give a new action to the parts. If the piles are inflamed, then apply leeches upon them, or to the verge of the anus, using an evaporating lotion, a poultice, an opium injection, or an opium ointment, as the case may require, repeating all these remedies as often as they may be necessary. The diet is of great importance; it should be bland, and meat should be avoided. Gruel, arrow-root, puddings, macaroni, &c., is the best food.

The case before us is one of aggravated piles—so aggravated, that when protruded at the expulsion of the fæces, they are retained by the sphincter of the rectum, and cannot return with the bowel by the action of the levator ani; consequently they remain with that part of the intestine to which they are attached external, and appear like prolapsus ani. In such a case as this none of the common remedies are of use. Aperients, laxatives, astringents, soothing ointments, Ward's paste, &c., may give temporary relief, but the only chance of cure is by their removal. There are two methods of removing piles—by excision and by ligature. When the pile is not attached to the intestine by a broad base, or is not internal, then excision is the quickest method of relief, but when it arises by a broad base, or is internal, then the removal by ligature is preferable.

[The removal of piles by excision is certainly very frequently a dangerous operation, from the fearful hæmorrhage which ensues. This hæmorrhage may continue for hours. Mr. Stafford relates a case in which a moderate sized chamber-potful of blood was lost before it could be stopped. The ligature, therefore, is the means now generally adopted to remove these bodies.]

There are two modes of applying a ligature to hæmorrhoids; one by surrounding them at their base, the other by passing a double ligature through their centre, at their base, by a needle, and then tying each half separately. When the pile is not large, the first of these methods is best, but when it is large the latter is preferable. Should there be any doubt whether the vessels supplying the pile can be strangulated by tying the whole base of the tumour, it is better at once to use the double ligature. By doing so you will be certain of cutting off the supply of blood, and the hæmorrhoid must slough off; for by piercing the base at the middle with a double ligature, you immediately destroy the circulation through the vessels at the centre, and thus the death of the part is certain.

Before the operation is performed the patient should be desired to protrude the bowel, when the piles will be exposed. He will probably find it most convenient to lean forward on the edge of the bed, or to lie down on the side, to effect this object. Having ascertained the number of the tumours, and completely defined their base, you thread a curved needle, or a pile needle made for

the purpose, with a double ligature. You then pass the point of the needle through the base of the pile; having done so, you cut the ligature and take the needle away, whereby you have two distinct threads through it; you now tie each thread tightly on each side of the base of the pile, and thus you completely strangulate the vessels supplying it. You treat each hæmorrhoid in the same manner, when in a few days they all slough off, and the bowels heal. Sometimes it happens that another crop of piles makes its appearance when the first you have tied disappears; this is owing to there being more left behind internally. Under such circumstances you must tie them in the same manner as the others were. *Medical Gazette, April* 7, 1843, *p.* 62.

62.—USE OF NITRIC ACID as an Escharotic in certain forms of HÆMORRHOIDAL AFFECTIONS....By JOHN HOUSTON, Esq., M.D., M.R.I.A., Dublin.

[The safety and efficacy of the following mode of practice adopted by Dr. Houston in hæmorrhoidal cases, is confirmed by the testimony of Mr. Cusack. These two names will induce us to place confidence in any new mode of treatment recommended by them. Before explaining his use of nitric acid, Dr. Houston enters briefly on the pathology of hæmorrhoids. The form in which they commonly exist, is that of a simple varicose state of the veins, and it would be well if the terms "*varices*," or "*varicose tumours of the rectum*" were applied to such cases instead of the term "*hæmorrhoids*."]

Varices of this nature present themselves at the mucous surface, or under the skin in the neighbourhood of the anus; or they may appear in both these situations at the same time. When turgid with blood, they form violet-coloured tumours, elastic, little painful, disappearing on pressure, but re-appearing as soon as the pressure has been removed. In many instances, these outward dilatations constitute only a moiety of those which surround the rectum, the inferior part of the bowel being frequently imbedded in a mesh of dilated and turgid veins, the presence of which must render the knife, or even the needle and ligature, implements of danger in such cases, whenever they happen to become objects of surgical treatment. But it is seldom for these varices, in their simple state, that remedies are sought. It is usually for some of the consequences that spring out of them, or some of the complications which attend them, that the medical attendant is consulted:—a circumstance which should never be lost sight of in forming a prognosis as to the amount of relief which may be given, or in determining the extent to which treatment is to be pushed to obtain that relief.

The state of the parts to which the term *external hæmorrhoid* is applied, is one of these conditions. The affections bearing this name are at first merely off-sets from the dilated veins, admitting, during their early periods, of the ready ingress and egress of blood from these latter vessels; and sometimes continuing so to admit it for a long period. Such are found under several forms. Sometimes, and that even where no complaint has ever been made of them, they are visible in considerable numbers around the anus, as shut sacs, inclosing small clots of blood; and, as marking their original source, still lined with a fine serous membrane analogous to that forming the inner coats of the veins: these are, evidently, the remains of external piles, which have undergone spontaneous obliteration. At other times, especially when seated in the line of junction between the skin and mucous membrane, the affection assumes the form of permanent tumours, of greater or less magnitude, and of complex cellulated texture. Such tumours (marischi) by forming adhesions to the mucous membrane or skin, and bursting there, under circumstances of congestion, and also by their becoming occasionally the seat of acute inflammation, produce all the inconveniences which characterize a "fit of the piles." They, too, in the course of these changes, may undergo a spontaneous cure, leaving behind them only small fleshy, innocuous tumours; but as long as they continue to swell and bleed, they may be regarded as still remaining in communication with the deeper varices from which they originally sprung. Operations on such tumours, by cutting instruments, are, on this account, usually attended with considerable, some-

times profuse, hæmorrhage; but, nevertheless, such operations may be regarded as safe and justifiable, inasmuch as, that any bleeding which arises may be readily checked by the ligature, styptics, or actual cautery. Accordingly excision, or destruction with the red-hot iron, are unhesitatingly resorted to, whenever the inconveniences attendant on such affections require a radical removal for their cure.

Respecting the term *internal hæmorrhoid*, it is more vague in its application; and the pathology of the state of parts which it is meant to indicate, is much less generally understood. I believe that the simple varix, or even that more complicated state in which it exists as an external hæmorrhoid, is not the condition which most usually produces distress or annoyance, in what are called "inward piles." The amount of suffering is never proportioned to the bulk of such simple varices. We see individuals in whom the veins are so large and prominent, as to appear calculated, mechanically, to produce great intestinal derangement, yet in whom, except in so far as occasional bleeding incommodes them, there is not much distress; while in others, a hæmorrhoidal tumour, not larger than a marble, deranges the entire economy of the body. The state of the mucous membrane covering such varices would appear to influence the condition of the case, more than that of the varix itself. While the mucous membrane continues smooth and pale, and free from morbid sensibility, there will be little distress, and the tumours will swell and subside, and even pour out blood occasionally, without the patient being at all aware of the extent of organic derangement which he labours under; but as soon as a relaxed state of the membrane—a state to which it will soon be brought by the irritation and dragging to which it is subjected by the pressure of the fæces against the tumour of the varix, and the efforts of straining to overcome constipation—as soon as this state of the membrane is induced, then, the varix coming down under the sphincter, is strangled, made to bleed, and to inflame. Or, when from similar causes, ulceration of the mucous membrane over the varix is established, then, distress of another and even a worse description, viz., tenesmus, muco-purulent discharges, strainings at stool, and hæmorrhages of dangerous amount are entailed upon the sufferer. Or, still farther, when that state of the mucous membrane, to which the term "vascular tumour" is applied, supervenes, as I believe it often does, upon a varix, then a simple and otherwise innocuous affection becomes one productive of most poignant suffering.

Of this latter complication—the *vascular tumour*—as that to which, in particular, I consider the application of the nitric acid beneficial, I propose to speak somewhat in detail. The multiplicity of names given to this disease, such as "vascular tumour," "hæmorrhoidal excrescence," "erectile tumour," "spongy hæmorrhoid," "varicose tumour," "internal hæmorrhoid," &c., leads the mind astray, and prevents it from forming any accurate conception respecting its true nature. I am disposed to regard it as an affection of the mucous membrane and sub-mucous tissue, exclusively and to treat it as such. It may, and I believe it usually has, for its basis, a nuckle or bunch of varicose veins; but it may also be a distinct and independent growth, the result of some other irritation in this region. I have seen it covering the surface of one varix in a rectum, while others in the same bowel have been smooth, and free from any such growth—the former being the source of much annoyance, the latter giving no trouble at all. I have also seen the affection in young individuals particularly, where the veins were quite free from any varicose dilatation, but in whom, after a time, varices formed as the result of the irritation of the vascular tumour. And I have observed that, in almost all cases of inward piles of long standing, no matter whether the affection have begun originally as a varix, or as a degeneration of the mucous membrane, both affections come to be present in conjunction, reciprocally aggravating each other's severity.

These tumours vary in size in different patients, from a pea to a walnut. Their number, also, is equally variable. Sometimes there is but one; in other instances, there may be two or more; and in others, again, they are so numerous and large as to cause, by their protrusion through the anus, a permanently widened state of that aperture, and a habitual prolapse, not only of the tumour

itself, but also of a portion of the bowel. In the early periods of the affection the tumours are so soft, compressible, and free from pain as scarcely to be discoverable by the finger when introduced into the rectum, and scarcely, therefore, to be deserving of the term, tumour; but when of long standing, and especially when they have been permitted to remain down for protracted periods at the water-closet, they acquire an increase of firmness and a tenderness which render them easily detected by such manipulations, and give them a tangible and permanent character. The dragging and pressure to which they are subjected in being pushed out and squeezed by the sphincter in defecation, renders them likewise prominent, and gives to them often a pedunculated or polypus-like form. The surface of the tumour is either granulated like a strawberry, or of a villous aspect. It is of a red colour, and, when protruded from the anus, bleeds from every pore as from a sponge. It is easy to satisfy one's-self on this latter head, by drying the surface of the tumour, when a fresh issue of blood instantly takes place from every point of its surface. The blood discharged, in such cases, is always of the arterial red colour—a circumstance which often, in itself, indicates the true nature of the affection, and enables us to distinguish it from rupture of a varix. But, nevertheless, although this may be true as regards the direct issue of blood from the part, yet this very fluid, may, if allowed to lie in the cavity of the rectum before being discharged per anum, acquire a dark red, and even a grumous character. The bleeding in the former is also of more frequent occurrence, appearing with every effort at defecation, and weakening the patient more by the frequency and persistency of the drain than by the quantity lost at stated periodical intervals, such as usually takes place in the bursting of varices from over-distension.

Regarding the pathology of "vascular tumours," there are, I believe, two varieties of organic lesion, which, although differing somewhat as to their origin and nature, produce nevertheless equal inconvenience, and admit of cure by the same means. One of these is that to which the term "erectile" has been applied, from the supposed resemblance of the disease to congenital affections of this class; the other—a congested, hypertrophied, and tender state of the membrane, the result of irritative, or inflammatory action.

The first is regarded by many as a sort of aneurism by anastomosis of the small vessels of the mucous membrane and sub-mucous tissue exclusively, and may be independent from the first of varices of the general veins about the anus. Mr. Colles, who had an opportunity of examining the structure of one of those tumours in a person who died of another disease, says, "on slitting up the rectum, I saw three blood-vessels, each as large as a crow-quill, running for some way down the intestine and then dividing into a number of branches; these vessels ramified very profusely, and each seemed by interweaving of its branches to form one of these tumours. The trunks and branches were covered only by the lining membrane of the intestine. This examination shows us how inapplicable to this disease are the terms 'varicose tumours,' 'hæmorrhoidal excrescences.'" This affection may occur in youth, and has been seen high up in the intestinal canal; but its most frequent seat is the lower part of the rectum. There is not originally or necessarily any pain arising out of it; but, by long exposure in the rectum to many sources of irritation, and by enlargement and prolapse from the anus, it runs into a state of actual disease. It differs from ordinary nævi in not being necessarily congenital, but resembles them too much in its persistent tendency to increase in growth. They are, both, affections which equally require operations for their removal.

The second variety of the vascular tumour is of a chronic inflammatory nature, and may be best described by comparing it to the red, villous, tender, hæmorrhagic surface exhibited by the mucous membrane of the eyelids in old cases of chronic conjunctivis. With the latter, too, the resemblance is still farther established by its habit of secreting pus independently of ulceration. Such tumours are apt to form on old internal varices, which, by their projecting into the cavity of the bowel, expose the membrane covering them to more than ordinary pressure and irritation, and thereby become the direct cause of this morbid development. Once established in connexion with the surface of a

varix, the two making between them a compound disease, the distressing qualities of such an affection are not slow in exhibiting themselves. Thus, in one case in which there were several internal projecting varices, that only, on which this hypertrophied condition of the mucous membrane existed, gave annoyance, and on the removal of that and that singly, all hæmorrhoidal distress subsided. The "master pile" being removed, the others fell back into a state of painless quiescence. As in the foregoing variety, there is no relief for this affection but in destruction of the morbid growth. They both, therefore, differ from the diseased conditions which supervene on external varices, in having no disposition or power to undergo a spontaneous cure; and, consequently, are more likely at some period of their course, to become objects of surgical interference.

If such be a correct view of the pathology of certain internal hæmorrhoids, and I have no doubt that in very many cases it will be found so, then, I would ask, are such severe remedies as those usually employed, viz., the knife or ligature, either necessary or safe? If the seat of the baneful part of the affection lie on the surface, why not rather adopt such means as may remove that surface, *per se*, without extending beyond it, rather than such as may, on the one hand, by going to an unnecessary depth, wound vessels of such magnitude as are capable, when opened, of pouring out blood to the hazard of life; or, on the other, by the severity of its operation, engender the most painful and the most dangerous symptoms? It is not necessary for me to rehearse all the disadvantages which attend those modes of treatment; suffice it to say, that no man ever applies either the knife or scissors, or even the needle and ligature, in any such patients, without more or less of misgiving as to the success, or apprehension as to the result of the experiment. It is enough to read the objections to any one of these operations, as detailed by the advocates of the other, and *vice versa*, to be satisfied of the little confidence reposed by the profession in either.

The properties of *pure nitric acid*, as an escharotic, point it out, in theory, as an agent fitted to take the place of these over-severe remedies, in cases where a superficial destruction of the part to be removed is all that is required; and the application of it to practice has fully proved its efficiency as a substitute. This acid, at the density of 1500, destroys, on the instant, the vitality of the part to which it is applied, by the production of a chemical decomposition of its solid and fluid elements. The depth of the slough which is to follow may be regulated, in some degree, by the quantity of acid laid on the part; and its extent, laterally, may be confined with sufficient exactitude to the limit of its first application, by instantly smearing the whole over with olive oil, which neutralizes its farther corrosive powers, by combining and forming with it a new, but no longer corrosive compound. The beneficial effects of nitric acid, in arresting phagedenic and other unhealthy inflammations, and substituting in their stead one of a salutary character, recommend it as a remedy little likely, in itself, to do any serious mischief, if applied with the necessary precautions—a guarantee which certainly cannot be extended to other escharotics of equal power. The separation of the slough, after the application of nitric acid, leaves a healthy suppurating surface, which contracts and heals over very quickly.

The nitric acid, then, in its operation on the vascular tumour combines in itself all the advantages possessed by excision or ligature, without any of their disadvantages. The tender, tumid, and bleeding surface is removed with little pain and without danger; and, in the cicatrization which rapidly follows, a radical cure is effected. But the good effects do not stop here; not only is a reparation of the worst part of the affection accomplished, but, by the bracing up of the general mucous membrane which follows the removal of the relaxed and diseased part of its surface, other varices which may be present are supported and reduced in bulk, and ulcers, or even fissures, are healed; and these secondary good results may be regarded as not the least important which have taken place on the occasion. The resumption of the natural action of the bowels, and the general improvement in health which follows the application of the acid to a single vascular hæmorrhoid, even where several are left behind, show an improvement in the state of the rectum generally, greater than could be supposed to arise from the simple abstraction of one from among the number. The con-

traction of the mucous membrane following the removal of a portion of its extent, acts beneficially on the bowel, in the way, perhaps, that the contraction which follows the removal of it in the operation for prolapsus ani, acts; or in the way in which the removal of a piece of the scrotum, as recommended by Sir Astley Cooper, operates in relieving varicocele; or, to use a still more familiar illustration, in that in which a laced stocking operates in remedying a varicose state of the veins of the lower extremities, viz., by bracing and giving support to the relaxed subjacent veins and other textures. The relief, too, which the bowel gains by the removal of such a source of local irritation, contributes, no doubt, in a prominent degree, to the production of the same good results.

The application of the acid may be made in the following manner. Let the patient strain as at the night-chair, so as to bring the tumours fully into view; and, while they are so down, let him either lean over the back of a chair, or lie down in the bent posture on the side on which the disease exists, with the buttocks over the edge of the bed.* Let a piece of wood, cut into the shape of a dressing-case spatula, be dipped in the acid, and then, with as much of the acid adherring to it as it will carry without dripping, let it be rubbed on the tumour to the extent desired. The due effect of the acid on the part is shown by its changing it to a greyish-white colour. If a superficial slough be all that is required, a single application may be enough; if a more deep one, then two or three applications of the wood dipped in the acid may be made in quick succession; which being finished, let the part be well smeared over with olive oil, provided beforehand for the purpose. The prolapsed parts should then be pushed back within the sphincter, the patient put to bed, and an opiate administered. The pain of the application is sharp and burning at first, but goes off in two or three hours, and does not again return in the same form. A general uneasiness about the anus, on motion, together with a slight sense of heat, fulness, and throbbing, are felt for a few days; and there may be some little feverishness; but I have not seen or heard of any more serious effects from the remedy. In one case, a slight stranguary, which was experienced for a short time, disappeared under the mist. camphoræ c. opio. The symptoms following the application of the acid are usually so mild as not absolutely to require confinement to bed more than a few hours; although, for many reasons, such confinement may often be desirable. On the third or fourth day, a purgative draught should be administered, when the bowels will be found to yield to the medicine, generally without either pain or prolapse of the rectum. The progress after this to healing is rapid, and free from any disagreeable symptoms.

One important point in recommendation of the treatment by nitric acid is, its immunity from danger and from pain, or subsequent tedious confinement; for, although in the cases above cited, severe pain and confinement for a few days to bed are spoken of with candour, yet these conditions are not to be taken as the measure of the results to follow in the generality of such cases. The anxiety felt for the success of a new remedy, by increasing my apprehensions regarding it, magnified the sufferings of the patient in my eyes, and impelled me to take precautions for their mitigation beyond, perhaps, their real urgency or necessity, and certainly beyond what I have since experienced in other cases, which, in the confidence of success, I have regarded with more indifference; for, in fact, I have since several times known it to happen, that, after the first feeling of pain, the effect of the caustic, had subsided, the patient has continued to transact his ordinary affairs as usual.

A question of practice may arise, in cases where two or more vascular tumours co-exist, requiring the application of the acid, as to whether both or all should be touched in the first instance and at the same time? I believe such will, in general, be the proper course for adoption. The severity of the remedy has been shown to be moderate, or such, at least, as not to forbid its application to two points of surface, more than to one; and besides the great advantage of

* I may here observe, in passing, that any introduction of the finger into the rectum immediately before the operation should be avoided, as the pressure made thereby on the tumours will so reduce their bulk, that they will not for some time come down again sufficiently for the purpose desired. I mention this, because I have seen both patient and surgeon disappointed, by being obliged from this cause to defer the operation to another day.

completing the operation at once, and of having the time for the accomplishment of the cure thereby materially abridged, will be secured by the adoption of this course. The circumstances of the case must, however, often determine such a matter, rather than any preconcerted rules.

But, let me not be misunderstood as to the cases for which I recommend the use of nitric acid. I do not speak of it as a remedy for all kinds and degrees of vascular tumours or internal hæmorrhoids; nor as one to supersede entirely the knife or ligature. There are cases, no matter how they have commenced originally, in which, from long standing, or other causes, all the textures in the neighbourhood—blood-vessels, skin, mucous membrane, cellular tissue, &c., have become so implicated, that scarcely any one part appears worse than another; and in which some operation, if any, of a more sweeping nature must be had recourse to. For such, the knife or ligature may, according the choice of the practitioner, be employed. The acid is, according to my experience, adapted especially for cases of more common, every-day occurrence; cases in which the disease, although not involving immediate danger, yet keeps individuals miserable, and interferes with them in the discharge of their ordinary duties of life; cases, in short, which astringents will not cure, and for which, excision or ligature would be unnecessarily severe remedies. But, in speaking thus cautiously of the extent to which the acid is applicable, I believe that I am recommending it within the range of its power and applicability to the cure of hæmorrhoidal diseases. The case of a medical gentleman of eminence, cured of long continued and aggravated vascular tumours of the rectum by the nitric acid alone, is well known in this city. And, farther, I have reason to believe that the beneficial application of this remedy is not confined exclusively to such cases as I have been recommending its use in, viz., vascular tumours. In experimenting with it on these affections I have found that the varices joined with them in some instances, were also removed by the same application. In one case, the subjacent varix, which showed itself as such after being stripped by the acid of its tender vascular covering, disappeared under the action of a second touch of the caustic. And, in a very aggravated case of vascular tumour complicated with large internal varices, which my friend Professor Hargrave brought me to see, both one and other were removed by separate applications of the acid. This patient, a respectable married woman, who for years had endured continued prolapses of both tumour and piles, was effectually cured by this treatment; and has since borne children without suffering relapse of the disease. The disappearance of such varices under its use may be brought about in three ways: first, by the direct action of the acid on the whole substance of the tumour, producing a slough thereof to its entire depth; secondly, by the extension of the inflammatory action to the sac of the varix, inciting there a local phlebitis, and a consequent coagulation of the blood and obliteration of the venous cavity; and, thirdly, by the destruction of the mucous membrane, simply, without obliteration of the sac—the remedy in this instance being derived from the support which the varix thereafter receives from the cicatrized and tightened membrane. However, as this paper was undertaken solely with the view of recommending the acid for the cure of what are understood by the terms "vascular" or "strawberry-like" tumours of the rectum, I must abstain from entering here upon new grounds; reserving such farther observations as I may have to offer on these topics to some more befitting opportunity. *Dublin Jour. of Med. Science, March*, 1843, *p.* 95—119.

63.—REMOVAL OF PILES BY THE WIRE LIGATURE.

By Professor Horner, Pennsylvania.

The plan here recommended, is to calm the rectum by cold water injections for some days before the operation; a precaution, the value of which I have learned from one of the best and most experienced surgeons we have, my friend Dr. Thomas Harris, of the United States Navy. The rectum being empty at the time of operating, the patient, by straining in a squatting posture, forces the tumour or tumours out. He then goes to bed and rests on the side corresponding with the tumour, and near the edge of the bed. A thick sail needle armed with a large ligature, is then passed transversely through the upper part of the

base of the tumour; the needle being removed from the ligature, the two ends of the latter are tied together, so as to form a loop. A stout awl then transfixes the lower part of the base of the tumour in a line parallel with the ligature above.

In a large protruded pile, the usual anal pouches or sacs are much enlarged and have their orifices pointed downwards. The awl, when placed as intended, is between these sacs and the adjoining margin of the anus, and makes the part so firm that it is more easily operated on subsequently. The inferior third of the base of the tumour is now detached from the anus with a scalpel, the anal sacs, and a corresponding loose fold of skin which commonly exists at the same time with large hæmorrhoids, going along with the tumour. Should the tumour recede, the loop above and the awl below enable the operator to draw it out. A wire noose is then thrown around the adherent base of the tumour, and drawn perfectly tight, by the aid of a double canula. This noose occupies the previous incision, and it may be placed with great accuracy, from the command over the pile derived from the first ligature and the awl.

The tumour, if very large, may now be punctured so as to disgorge its blood. At the end of five hours, the part is perfectly dead by strangulation. The tumour may then be cut off near the wire noose, say three lines from it, for which act in the process of operating, a pair of scissors will do; but what is still better, Dr. Physick's tonsil instrument, owing to the accuracy of its line of incision. The wire noose itself may then be taken away, as the vessels are so compressed and deadened, that no blood will pass through them. The awl should be removed directly after the wire noose is applied and fixed, but the first loop should be retained for the final act, to wit, the excision of the tumour, as it assists very much. The operation thus completed, an injection of tinct. opii 3i. in two ounces of thin starch, puts the patient at ease, and he falls into a tranquil sleep. I will now conclude by stating, that it is of importance to detach well, by the incision first alluded to, the base of the tumour from the internal sphincter muscle, without which precaution we cut through, instead of lifting up and removing a plexus of veins at the anus; we also leave thereby, unfortunately, a fold of tegument which swells and inflames largely, and the reduction of which swelling gives rise to a treatment as severe and protracted as a common attack of hæmorrhoids. *Amer. Jour. of Med. Science, Oct.* 1842, *p.* 358.

64.—PALLIATIVE TREATMENT OF VESICO VAGINAL FISTULA.

By James Reid, M.D., London.

[The want of success generally experienced in the radical cure of this troublesome affection, makes us too often satisfied with simply a palliative remedy. If the surgeon, however, would be at the trouble to employ Mr. Liston's mode of cauterization at very long intervals, and wait patiently after each application of the cautery till the cicatrix had fully contracted, we think that he would be more successful in these cases. (This practice is detailed in Art. 52 of our Fifth Part, by Dr. Payan.) Four or six months intervened between each application of the cautery, which enabled the part each time to assume that kind and degree of contraction which we observe in the cicatrices of severe burns of the skin. In a case related by Dr. Payan the size of the false passage was so considerable, that she could easily introduce into the bladder her middle finger covered with four plies of surgeon's lint, and after the cautery had been applied six times, with intervals of two, three, or six months, the fistula would hardly admit a large sized knitting wire, and was ultimately cured. Owing to the troublesome mode of treatment, however, the surgeon will frequently be obliged to have recourse to some kind of pressure, so as to prevent the constant dribbling of urine into the vagina: with this object Dr. Reid says:]

In the year 1835 I was impressed with a notion that the caoutchouc cloth might be adopted as a mechanical remedy in cases of this description; and in a small work which I published at that time I mentioned my intention of trying it should I meet with an opportunity for doing so. It was not, however, until the commencement of 1839 that a case fell under my notice, and on further consideration I thought that the simple India-rubber bottle might even be preferable

owing to its elasticity. The aperture forming the communication between the vagina and neck of the bladder is occasionally large, and the intention of the instrument, therefore, would be, that it should effectually form a partition or complete plug between these two organs, thus preventing the constant flow of urine through it, and the consequent great irritation, inflammation, and thickening of the callous edges. The apparatus consists of a common India-rubber bottle, of moderate size, but free, if possible, from those lines and ornamental tracings which are placed on some, as these render them more liable to burst on distension, owing to the unequal thickness. It should be of a pyriform shape, without any shoulders or sudden bulging out from the neck or stalk of the bottle, as the latter form interferes with the ready extraction of the instrument when required, or at least occasions unnecessary pain in removing it. To the neck of the bottle is attached a mount, containing a female screw, at the side of which is a small stop-cock. Mr. Weedon, the instrument-maker, has since suggested, and I think properly, that the air-valve now commonly used in the Macintosh cushions, &c., would be better adapted for the purpose. The other portions of the apparatus consist in a small *condensing* syringe, of the shape and size of the common breast-pump, the distal end of which terminates in a male screw, corresponding with the one attached to the bottle. The latter being well oiled or larded, and the air pressed out of it, is folded longitudinally, and carefully passed up into the vagina, until the lower end or mount is at the vulva. A certain portion of air is now *drawn up* into it by the simple removal of pressure, but it is not sufficiently distended till the condensing syringe is fixed and a few strokes of the piston used. The number required must depend on circumstances, but will soon be known by the patient complaining that the further distension begins to give pain. The stop-cock is now turned, the syringe disengaged, and a napkin applied to the vulva, fastened as usual.

Some inconvenience may, of course, be occasioned at first by the use of the instrument, and if the parts be in a very irritable state much pain may accompany it, but this is to be obviated by complete rest, the use of the hip-bath, and by warm vaginal injections. The bottle is to be removed for a short time every evening, previously allowing the air to escape by the stop-cock; the vagina is to be gently syringed out with warm water, and the bottle, after being washed, is to be replaced. It is, however, much better to be provided with two or even three bottles, which should be used alternately, as the heat and urine acting upon the caoutchouc constantly, render it more likely to burst or wear out. An oil-skin covering, adapted to the shape of the bottle when distended, and changed occasionally, will aid much in preventing the action of the urine on it. The comfort resulting from the use of this instrument is soon perceived, as it prevents that constant flooding of water which had previously taken place, excoriating the parts, and rendering the bed and clothes almost unfit for use.

Although I have not found the frequent use of the catheter required, still at the commencement of the treatment it might be advantageous to combine it if there should be any difficulty in passing urine by the natural passage. After I had commenced the use of this instrument, a medical friend to whom I mentioned it, thought he recollected a somewhat similar mode of treatment described in one of the early volumes of the "Medico-Chirurgical Transactions." On searching through them, I found in the sixth volume a report, in 1815, by Mr. Barnes, surgeon to the Exeter Hospital, in which he recommends, on the suggestion of an eminent London surgeon, Mr. G. Young, the use of "a gum-bottle of suitable size, to one side of which a piece of sponge, flat, and of the size of a dollar, is previously sewed, to cover the aperture into the bladder, and that the patient, by introducing a finger into the vagina, and compressing this, might at proper intervals allow the urine to pass. This answered for two hours, but if the urine was not then removed by the catheter, it oozed out by the wound. The catheter was, therefore, introduced every two hours during the day, and kept in constantly during the night, the bottle being withdrawn till morning." One case seems to have been cured by the use of the above instrument in the hospital, at the expiration of nine months, the catheter being employed several times in the twenty-four hours, up to the end of that period.

Two cases were uncured, and in two others, owing to the narrowness of the vagina, it was considered needless to attempt its employment.

Now, in hospital practice, where the patient is constantly under the eye of her medical attendant, and can enjoy complete rest, this plan may succeed, but still I have considerable doubts whether the success might not, in the above case, have depended in a great measure on the repeated use of the catheter during the day, for nine months, and its constant employment at night. But with those patients, who from circumstances cannot or will not benefit by a residence in an hospital, with such advantages attendant upon it, for months together, it would not be likely that such good effects would arise from the above plan as resulted in the first case; for so frequent a use of the catheter by the medical attendant would be attended with much trouble, and even were the patient taught to introduce it herself, little reliance could be placed upon her using it properly for so long a period. As this untoward accident happens, too, generally in the lower ranks, where the female is obliged, if at her own residence, to undergo some fatigue, and perhaps hard labour, in order to aid in gaining a livelihood, absolute rest for a lengthened period would be almost impossible. *Lancet, Feb.* 18, 1843, *p.* 736.

65.—TREATMENT OF CHANCRE....By LANGSTON PARKER, ESQ.

Venereal ulcers, it must be recollected, are in the commencement purely local diseases, resulting from the application of a morbid poison to the skin or mucous membrane, and the risk of constitutional infection is generally to be feared in the direct ratio with the time a primary venereal sore remains open. Hence it becomes necessary to attempt the destruction of a chancre at the very earliest period that it is presented to our notice.

A chancre when first presented to the notice of the surgeon, is generally in one of two states—either in that of a small pustule with its contents yet undischarged, or a minute ulcer. In whatever state it may be, our first duty is to endeavour, by the use of escharotics, to convert the specific sore into a simple one. For this purpose you will find most authors recommending either a strong solution of the nitrate of silver, or the application of this caustic in substance. When the nitrate of silver is used, if the disease be pustular, it will be necessary to open the pustule with the point of a lancet, to discharge its contents, and rub the whole surface and edges of the ulcer thus produced with the nitrate of silver, previously cut to a sharp point; if the disease be an open ulcer, it is to be treated in the same way. The nitrate of silver thus applied will sometimes have the effect of producing a simple sore, but it will more commonly give rise to considerable irritation and inflammation, while the specific character of the sore is not destroyed. I have seen so much evil in this respect, from the use of this escharotic, that I have now abandoned its use under such circumstances, and have recourse to other caustics of a more powerful character. The great evil in the use of the nitrate of silver in these cases is, that it is powerful enough to irritate, but not sufficiently powerful to destroy. We want a remedy that will at once disorganise the tissue to a depth coequal with that of the chancre. For this purpose I now employ several remedies: highly concentrated nitric acid, the acid nitrate of mercury, the acid nitrate of silver, or the potassa cum calce of the London Pharmacopœia. The second of these remedies is made by dissolving a drachm of the subnitrate of mercury in an ounce of nitric acid; the third by dissolving the same quantity of the nitrate of silver in the like quantity of acid.

When it is determined to destroy a primary venereal ulcer with any of the three first caustics, a camel's-hair pencil must be dipped in them, and the surface and edges of the sore pencilled thickly over; if the acid be sufficiently concentrated, the whole surfaces touched are at once destroyed, and converted into a yellow eschar, which, on separating, generally leaves a clean simple sore underneath. When the potassa cum calce is employed, which is the most certain of all the remedies I have mentioned, it must be made into a paste of moderate consistency, with spirits of wine, at the time it is wanted for use, and the sore and its edges covered with it. When it has been on a few seconds, a smart

burning pain is felt, which continues to increase as long as the caustic is suffered to remain on, which it should be from half a minute to a minute, or even longer, according to the effects produced. After this the caustic must be all removed by means of a fine bone spatula, and the black eschar left may be covered with a poultice, a cold saturnine lotion, or fine, soft, dry lint. The pain soon subsides after the caustic has been removed, and in about half an hour the patient is generally pretty comfortable. The aggregate amount of pain produced by the application of this remedy is not as great as that by the nitrate of silver, while the effect of the potassa cum calce is certain; all the parts touched by it are at once destroyed, and, on the separation of the eschar, we have a clear granulating sore left, which commonly heals with great rapidity, particularly if the ulcer be a recent one.

Of all the means hitherto recommended for the destruction of a primary venereal sore, none are equal to this. The effect is instant and certain, and the benefit to the patient incalculable. A poultice is the most convenient and best application during the time the eschar is separating, if the patient can rest, which should always be urged upon him as an essential point, if it can possibly be managed. The moment the eschar begins to be detached, and a secreting surface is exposed, the poultice must be done away with, and other remedies employed. Of these, weak lotions are the best. I employ weak solutions of the nitrate of silver, acetate or sulphate of copper, alum, or zinc, or tannin in port wine, in the proportions of about two drachms of the former to six ounces of the latter.

There are certain conditions of primary venereal ulcers which contraindicate the use of the caustic in the first instance. If an ulcer of this kind produce violent inflammation of the penis, this must be reduced by a proper general treatment before we have recourse to these remedies, which may be used after the inflammation has been subdued, if the sore be foul, and stationary, and show no disposition to heal.

Whenever a patient consults you with a primary venereal ulcer, particularly if it is the first from which he has ever suffered, point out to him in as strong terms as you can the necessity of his adhering rigidly to a very abstemious diet till the ulcer assumes a granulating condition; it is well, also, at this period, to administer repeatedly, for some few days, aperient medicine, and to insist on a total abstinence from malt liquor, wine, or spirits. If your patient, from circumstances, cannot lie by and rest altogether, press upon him the advantage of retiring early to bed, rest in bed being a most important auxiliary in the treatment of all forms of primary syphilis. It is very easy to regulate all these matters in the hospital, but in private practice, to which I am now more particularly referring, such means cannot always be adopted, and I am afraid their extreme importance and advantage are not always stated in as strong a manner as they should be to the patient.

Whether it be your intention to submit your patient ultimately to mercurial treatment or not, these preliminary cautions should never be omitted. Many of the evils attendant on mercurial courses are to be attributed to not preparing the patient by diet, rest, and aperients, for the administration of this medicine. I am far from subscribing to the tenets of those who treat syphilis systematically, on what is termed the rational or simple plan without mercury; but I must bear so far testimony in favor of this school, to say that they have conferred an immense advantage upon society by pointing out that diet, rest, simple dressings, and an antiphlogistic regimen, have a vast influence over the ravages produced by syphilis, and wherever you exhibit mercury for the cure of syphilis, more particularly its primary forms, let your concomitant measures relative to diet and regimen be these which the rational school teaches, and I have just laid down.

If you administer mercury for the cure of a primary venereal ulcer, do not have recourse to it till your patient has been prepared to receive it by adopting, for some days, the regimen laid down, and till all inflammation produced by the action of the escharotics has subsided; you may then use it with every hope of realizing its most beneficial effects. To throw it carelessly in without these

precautions, under a vague impression that mercury is a specific for syphilis, is worse than injudicious; it is criminal, and cannot be too much censured. Let me tell you, gentlemen, that there are no specifics except such as become so by their judicious employment. One of the most common and unpleasant consequences of primary venereal sores is bubo, inflammation and enlargement, with or without suppuration, of one or more of the superficial or deep-seated set of the inguinal glands. Many causes will predispose a patient with a primary venereal sore to the occurrence of bubo. Among these may be mentioned a bad habit of body at the time of contracting the infection, a previous disposition to glandular enlargements, a scrofulous constitution or taint, full or high living, with errors or irregularities in diet; such predisposing causes may be termed general. There are others which we may denominate special—such are the long continuance of the primary ulcer in an indolent or ulcerating condition, the use of stimulating or irritating dressings, much exercise either on horseback or foot, and the absence of the suspensory bandage.

It is of vast importance to prevent the suppuraion of a bubo, since matter once formed and evacuated is often succeeded by sinuses and troublesome ulcers which are exceedingly tedious and difficult to cure. In hospital practice we can commonly succeed in dispersing a bubo, because we can make the patient do as we choose; but in private practice, where concealment is necessary, it becomes a more serious matter. When, as a consequence of a primary venereal ulcer not yet healed, or just healed, we perceive enlargement with tenderness in the groin producing stiffness when the patient walks, we may be sure that a bubo is about to form. I would not recommend you at this period to follow the old-fashioned practice of applying leeches; it is a practice generally very unsatisfactory, rendering your cure long, uncertain, and tedious; you must insist upon a strict regimen on the part of your patient, and absolute rest, if possible. You may smear the part thickly over with mercurial ointment, over this a linseed or a bread poultice, cold, and a piece of oiled silk to keep it moist, confining all by a bandage. Pressure may also be made by the emp. ammoniaci c. hydrarg. spread on thick wash leather, the plaster to be placed lengthways parallel to the thigh, and not at right angles with it; this prevents the plaster getting displaced when the patient walks. The best means of all, however, is to paint over the enlarged gland night and morning with a strong solution of iodine in hydriodate of potass. (Iodine, one scruple; Hydriodate of potass, two scruples; Water, one ounce.) The effect of this is almost magical. In the intervals of the dressings pressure should be made by a pad and bandage. If the patient has not used mercury for the treatment of the primary sore, the dispersion of the bubo will be hastened by now administering it so as gently to affect the system—always presupposing that the patient is in a condition to bear mercury. Should these means not succeed (which in a majority of instances they will), and suppuration appears inevitable, hasten it by all means in your power by warm poultices and fomentations. When matter is ready to be discharged, a question of very great importance suggests itself—viz., how should this be done? Many surgeons open the abscess freely with the bistoury or lancet, whilst some prefer the potassa fusa for this purpose. I would not under ordinary circumstances recommend either of these methods.

When a bubo is ready to puncture, I would not advise you to open it by a free incision; for almost under every circumstance where this is practised, there is a quantity of integument in the edges, which will not unite with the granulating surface of the sore thus produced. By opening an abscess in this way the whole anterior wall of it is destroyed, and your cure must be performed by the cicatrization of a granulating surface which springs from the floor or posterior wall of the abscess. Your great object is to evacuate the matter first, then to diminish the disposition to its reformation, and lastly to procure union of the two sides of the cavity. This may generally be done in the way I have adopted in the treatment of chronic abscesses in the Queen's Hospital, and which you have seen so successful in a great many instances. When a bubo is ready to be opened, you should not suffer the skin to become too thin; when you practise this method, with a fine lancet make several very small punctures over the

thinnest part, perhaps six, eight, or ten; through these the matter will ooze out till the cavity of the abcess is empty. Through one of the punctures the point of a very small glass syringe may be introduced, and a very weak solution of the sulphate of zinc injected, in the proportions of two or three grains to the half pint of water. When the abscess is quite empty, place over it a large compress of lint, and use moderately tight pressure by means of a roller. In many instances, if you can keep your patient quiet for twenty-four hours, you will get either partial or total adhesion of the sides of the bubo, and a speedy cure will be the result; in other instances this may not be the case, but by the daily use of the injection through one of the punctures, which should be kept open for that purpose, you will succeed in a few days, in almost every case, in effecting a cure.

I generally employ for an injection in these cases the weak solution of sulphate of zinc. I have used also a weak solution of iodine in hydriodate of potass.

Iodine, four grains; Hydriodate of potass, eight grains; Water, eight ounces. An injection.

The injections must be varied in strength to suit the feelings of the patient, or a gentle warmth and slight irritation should be experienced, but violent pain on no account produced. Solutions of the sulphate, or acetate of copper, alum, port wine wine with tannin, may all be used; and if one does not succeed quickly, have recourse to another. This is the best way of treating a suppurating bubo with which I am acquainted. I hope soon to lay before the profession generally a memoir on the treatment of chronic abscesses, after a similar manner.

Provincial Medical Journal, April 1, 1843, *p.* 4.

66.—ON LATERAL CURVATURE OF THE SPINE.

By JAMES SYME, Esq., Professor of Clinical Surgery in the University, Edinburgh.

[The object of this paper of Mr. Syme's is to point out the kind of case in which an operation for spinal curvature may be useful, and to discourage the operations which are recommended for all other kinds of spinal distortion. We cannot always be sure whether the bones or muscles are the first cause of lateral curvature. The muscles may be so weak as to allow the spine to bend, and the bones may at the same time be so unhealthy that an undue pressure may cause a premature distortion. All the operations which have been recommended for these lateral curvatures are at least very doubtful in their efficacy, if not positively injurious, and there is only one kind of spinal distortion which it is proper to attempt to remedy by subcutaneous incisions, and that is spinal curvature depending upon wry-neck caused by contraction of the sterno-mastoid, which muscle is liable to contraction both spasmodic and permanent. Although spasmodic contraction does not generally affect the shape of the spine, the permanent contraction may do so very materially.]

Wry-neck, like club-foot, is sometimes congenital, but much more frequently, like squinting, and the *pes equinus*, occurs during childhood, in connexion with some inflammatory or feverish state of the system. It depends upon a contracted state of the sterno-mastoid muscle, which has usually the feeling and appearance of a tense cord stretching from the clavicle to the ear. The head is bent towards the side affected, the face being turned to the opposite direction. Until the introduction of a subcutaneous incision, the treatment of this complaint was very defective, since it consisted either in the use of mechanical support, which did little, if any good, or in cutting across the contracted muscle, together with its superjacent integuments, which was a painful and bloody operation, leaving a large sore, slow to heal, and apt to renew the evil during cicatrization. The subcutaneous process requires merely a puncture of the skin, is not attended with pain or bleeding, needs no dressing or after-treatment, and at once affords the relief desired. The following is the first case on record of its performance in Great Britain, which I extract from my tenth report of the Edinburgh Surgical Hospital.

"*Wry-Neck depending on Contraction of the Sterno-Mastoid remedied by Division of the Muscle.*—Matthew Cullen, aged six, Dunbar, admitted November

2, 1832. The head was much inclined to the left side, and could not be elevated, owing to the rigid contraction of the left sterno-mastoid, the sternal part of which felt like a tense cord. The complaint had existed upwards of twelve months, and had resisted blisters, with other similar means of remedy. In these circumstances, it was thought necessary to divide the contracted part of the muscle. This was effected by entering a sharp-pointed narrow knife a little to the inner side of its tracheal margin, about an inch above the clavicle, and then pressing the blade against the tense fibres. A sudden snap, which shook the patient's frame, was immediately perceived, and all trace of the contraction disappeared. The knife was withdrawn, and the small puncture occasioned by it in passing through the skin afforded the only perceptible indication of what had been done. No pain or other bad consequences followed, and the cure might be regarded as at once complete."—*Ed. Med. and Surg. Jour, p.* 115.

In the case just related, the disease existed in its simplest form, and without any affection of the spine, which is seldom wanting. It proceeds from involuntary elevation of the shoulder on the side affected, to lessen the strain on the head. This necessarily gives the dorsal part of the spine a corresponding convexity; and the lumbar portion bending in an opposite direction, to preserve the balance of the trunk, there results a lateral curvature, in no respect different, so far as regards appearance, from its ordinary condition. I was asked, along with Sir Charles Bell, to see a young gentleman suffering from lateral curvature. Finding the right sterno-mastoid very much contracted, I proposed to divide it, and did so with the effect of redressing the spine immediately, so that before we left the house the youth was walking straight.

But if the distortion be permitted to continue, it sooner or later, as in the ordinary form of the disease, leads to alteration in the shape of the bones. The bodies of the vertebræ are compressed, and the sternum projects. In this case, of course, the operation cannot afford the same instant relief that follows its performance while the curvature depends merely upon muscular action. The head, however, is at once set free, to the patient's great comfort; and through the gradual improvement of time, the trunk, unless arrived at full maturity, may in a great measure regain its proper conformation. A few weeks ago, I saw, with Mr. Cruickshank, of Hill Place, a young lady from this neighbourhood, on whom I performed the operation in January, 1841. The back and ribs were then so much distorted, that I hardly ventured to hope for much improvement, especially as the patient was nearly twenty years of age. It was therefore an agreeable surprise to find, instead of the low, thin, sallow, crooked, sickly-looking girl I had formerly seen, an erect, fresh-coloured, happy, healthy-looking young woman.

There is still another condition of the complaint, of which I may mention an instance that came within my notice last summer, in the case of a boy who was brought from the country on account of lateral curvature. Observing that his head inclined to one side, I examined the sterno-mastoid, and found it, not tense and rigid as I expected, but soft and yielding. I perceived, however, that when an attempt was made to raise the head, the muscle resisted and became tense, and therefore concluded that it was the seat of the evil. Under this impression I proceeded to divide it, and succeeded in doing so, though with more difficulty than usual, from the want of tension, for which it was necessary to compensate by stretching the neck. A good effect was immediately perceptible, and the following day the patient's back was comparatively straight, which it has since, I am informed, become completely.

In concluding these remarks, it may be well to warn against mistaking for wry-neck depending upon muscular contraction, the distorted position of the head which proceeds from caries between the occiput and atlas. The latter disease, like the former, usually occurs in young persons, presents to a careless observer similar symptoms, and if confounded with it, leads to treatment not only useless, but extremely injurious. A young gentleman had for twelve months used friction and exercise under the instruction of a distinguished member of the profession, who supposed that he laboured under wry-neck from contraction of the sterno-mastoid. No benefit having been experienced, it was

thought that an operation might be serviceable, and with this view I was asked to see the patient. He presented all the characters and well marked symptoms of *spondylarthrocace*, or caries at the occipito-vertebral articulation, in a stage so advanced, that there was nothing left for me but to explain the nature of the case and predict the fatal termination, which soon afterwards happened.

Lond. and Edin. Monthly Journal of Medical Science, April, 1843, *p.* 271.

67.—NATURE OF SOME RECENT SUGGESTIONS FOR THE IMPROVEMENT OF OPHTHALMIC PRACTICE....By ROBERT HAMILTON, Esq., Edinburgh.

[When we reflect on the very great attention which is paid to Ophthalmic Surgery in Germany, we ought to look with great respect on any opinion which its eminent professors entertain, however different that opinion may be to our own. Dr. Robert Hamilton, in his recent tour of observation on this subject, among the German schools, has been particularly struck with one general mode of practice almost peculiar to them, which is, the choice of seasons, and of fine weather, for operations on the eye. This care in the selection of seasons is certainly not attended to by British surgeons. We may mention the names of Lawrence, Middlemore, and Mackenzie as advocating operations on the eye without any particular reference to states of the atmosphere. Mr. Tyrrell, on the contrary, says, "I am perfectly satisfied that the operation of cataract is most hazardous during the cold and damp seasons; so much so, that it is only under very particular circumstances that I ever operate in the period from October to March. The proportion of unsuccessful cases has been very much lessened since I have discontinued to operate in the cold and damp periods of the year." Dr. Hamilton met with other eminent ophthalmic surgeons in London, whose names he does not mention, who fully accorded with this opinion. The opinions of some of the German profession will be best expressed by Dr. Hamilton himself.]

One of the first individuals with whom we conversed upon the point in Germany, was the well known Dr. Louis Stromeyer, formerly professor of surgery in the University of Gottingen, and now professor at Munich, and surgeon to its excellent and truly elegant hospital. Upon stating to him that there were some oculists in London who were now declining to operate during winter, he expressed his surprise that it should ever have been otherwise, and remarked, that this abstinence had always been the rule in Germany; and upon our, in turn, exhibiting some little astonishment, and perhaps even incredulity, he desired us to inquire of his venerable colleague, Philip Von Walther, under the persuasion that continued scepticism could not withstand his high and unexceptionable authority. A second individual with whom we conversed in the Bavarian capital, was Dr. W. A. J. Schlagintweit, an old pupil of Professor Beer's at Vienna, and one of the most popular eye practitioners in Munich. He did not talk of the matter in altogether the same decided tone; but at the same time stated, that patients rarely presented themselves during the winter; and that they would not then operate, as the reflection from the snow was apt to act injuriously:—"If the weather," he said, "were mild in the months of October and November, I would not decline to operate; but in frosty, or in keen, or variable cold weather, or in the heats of summer, I would never think of it." In Vienna, we had ample opportunities of pressing our inquiries, and found the responses there were habitually the same. Our friend, Dr. Kaskowski stated, that the rule was not to operate, or rather not to perform any of the greater operations during the winter; but that this method of putting the matter was objectionable, as it did not give prominence to the principle which influenced them, and which was, that unless the weather were steady and good, and promised to continue so, they generally preferred waiting for more favourable circumstances. Thus, there might be three months in the depth of winter, and as many in the height of summer, when, from the intolerance of the heat, and the tendency to various epidemics, they would be disinclined to operate, unless there were some urgent call for it; and on such occasions they would exercise a double portion of watchfulness and circumspection to guard against unfavourable consequences.

Dr. Gulz again, Professor Rosa's assistant, to whom we were indebted for a course of privatissima lessons, put it in this way—"We have no formal or positive rule not to operate at any period of the year. But then, as a matter of fact, we don't like to do it during the unfavourable and trying seasons of the year, nor in fact, do we then operate much. Good and steady weather, with an agreeable temperature, is what we desiderate; and every thing that interferes with this—the cold and snowy weather of winter, the piercing and chilly blasts of spring, or the very hot season, or a very wet one, we try as much as possible to avoid; and hence, May and July, September and October, are the months we prefer; so much so, that the practitioners in the country, and even the peasants, are aware of our preference, and very much conform to it." In addition to all this, he stated that one of their most decided contra-indications against performing these operations, was the prevalence of almost any epidemic, such as catarrh or influenza, rheumatism, fever, or cholera, as the constitution of the season was apt to affect their cases injuriously. The only other German witness we shall adduce on this point is, Dr. Adolphus Winter, the assistant of the illustrious Ritterich, and the house-surgeon of the beautiful Ophthalmic Institution of Leipzic. He stated that, although it would be carrying the matter too far to say, that they never operated in the winter time, and though they would do so at any time, if circumstances required it, yet it was true that they operated very little between the months of October and March, both included; herein agreeing, almost to the letter, with the statements of Mr. Tyrrell.

And as with the German authorities, so, to a considerable extent is it with the French. Among the authors of this nation, Dionis, Wenzel, Delpech, and Dupuytren, all advise that care should be taken in selecting a proper time for their operations, avoiding the extremes of heat, cold, and wet; in illustration of which we shall here produce only the words of the Baron Dupuytren: "Le Professeur attache la plus grande importance à ne jamais pratiquer l'extraction de la cataract sans avoir etudie soigneusement les circonstances atmospheriques, les influences de la temperature, et la constitution medicale regnante. Chacun sait qu'il est des temps ou les ophthalmies sont extremement communes, et il est tres probable que l'operation serait alors suivie d'accidents inflammatoires."

Finally, upon this point, we may mention that some of our old English surgeons were very particular in this matter, and selected the season and attended to the weather with great care and caution; in proof of which we shall only select the following stanzas of the ingenious Banister, published in 1622, from Mr. Middlemore's instructive page (ii. 124).

"Couch cataracts upon a day so fair,
That neither winds nor clouds disturb the air,
When spring with smiles fills the earth's rich lap,
Or autumn makes the tree put off his cap;
The moon in the full, or in conjunction sly,
Or tracing Aries, or in the Gemini."

Here, then, undoubtedly, is a strong body of testimony, domestic and foreign, all witnessing for the propriety and the importance of paying the greatest attention to the season of the year, and the state of the weather, at which the principal operations upon the eye should be performed, and condemnatory of the present prevailing practice in this country, of undertaking them at all times of the year indifferently.

We observe, then, that all those well-marked conditions of the weather, which in popular language, are characterised as *extremes*, by being far removed from that state which is steady and agreeable to the feelings, such as extreme cold, and extreme heat, and, still more, extreme changeableness, as well as unusually damp weather, seem to bring along with them various influences which, in different ways, are apt to affect the human frame. Most of these influences seem, moreover, to act in two ways; both in a more direct and immediate, and also in an indirect method, by inducing well-known and defined diseases. If the weather be intensely cold, such an effect is produced upon our feelings and frames, that universal experience indicates that more than wonted care must be taken, by clothing and otherwise, to guard against the attending risks and dangers. Again, when the weather is extremely hot, a degree of lassitude attacks almost

every one, the appetite becomes impaired, feverishness supervenes, sleep is disturbed, and the nights become restless. Remarks of a similar nature might be made concerning very damp weather, proverbial for its gloomy dulness, and for those lowering effects which it produces upon the health and animal spirits; while sudden changes from one of these states to another, only multiply the risks to which each exposes us.

[But "What really are those eye cases in which the consideration of time and season" ought to guide our opinion? Those for cataract, artificial pupil, and staphyloma.]

For the removal of cataract, as is well known, three operations, differing somewhat in principle, are now practised, *Extraction*, *Solution*, and *Displacement*. The first of these is generally considered at once the most difficult, and the most perfect operation; and in its performance, pre-eminently, all the caution which can be exercised should invariably be observed. Our chief object being to enforce this lesson of caution, and impress upon the less experienced, that, though the account of the operation may be simple, yet the execution is difficult; and that, undertaken off-hand, and without the most minute attention before, at the time, and after the operation much suffering and failure will probably be the consequence, we shall bring under notice a few of the instructions we received in Germany, concerning the indications and contra-indications for extraction, which, however apparently minute and insignificant, ought to influence the surgeon in making up his mind, whether he will attempt to afford relief by this, or by some other of the proposed methods.

It is regarded almost an axiom at the Vienna school, that if the case be well selected, and the operation be adroitly performed, extraction is, beyond all comparison, the most satisfactory procedure for all concerned. At the same time, it is maintained that it requires considerable skill and practice; so that, when individuals are so placed that they have not every advantage, they are then prone to look about for arguments against it, and for reasons why other methods should be preferred: which, in reality, amounts to the admission that extraction is too difficult an operation for them. Hence the rarity of good extractors, and these being almost confined to capitals, and other large cities, and to few even in them; hence so many preferring the other operations—seldom or never having recourse to this one; hence also the many objections brought against this operation, which those who are skilful in its performance know nothing about, finding it truly successful, and free from injurious consequences.

[In Berlin, the speculum and in a great measure the fingers are dispensed with for the purpose of elevating the upper eyelid.]

The elevation of the upper lid, to which our present remarks apply, in many instances is the most important, and can always be done by an assistant. The substitution for the speculum is managed in this way. The assistant, standing behind the patient, commences the retractation of the integuments, fascia, and anterior fibres of the occipito-frontalis muscle, upon the forehead, by means of the fingers of both hands, advancing inch by inch, till he has reached, and somewhat passed the superciliary ridge, by which time the upper eyelid is under his finger, and all that is required is gained without giving uneasiness, the upper part of the globe being freely exposed, and the edge of the eyelid, and its lining membrane, instead of being irritated and bruised by the speculum, are never once touched by the finger. Thus the painful and more important parts of any operation are begun under favourable auspices, a point which may be regarded trifling by some in this country; not so, however, we can affirm, in the school of Jungken.

One other suggestion belonging to the same class of minute carefulness, we shall adduce in the words of Mr. Tyrrell, a gentleman who at present stands pre-eminent in this country, for his success in operating for cataract:—"Some persons," remarks this gentleman, "have such a habit of rubbing or pressing the eye, that it is best to confine the motions of the hands, after the operation is finished, by tapes fixed by one extremity to the side of the bed-frame, and by the other to the wrist, and of sufficient length to allow the patient to convey the hand to the mouth, but no higher. I have several times known," he adds

"mischief to occur from the want of precaution of this kind"; a recommendation which we have nowhere else seen either advised or practised.

Respecting the treatment of cataract by *Solution* of the lens, it is certainly an operation of much less risk than that of extraction, and yet a measure of care should be taken even here. In some degree as illustrating this, and conspicuously, the more general subject under review, we may mention another proposal which was first made, we believe, by Mr. Tyrrell, and which we know is now practised by the officers of the London Royal Ophthalmic Hospital. We have noticed above, that one of the indications for the operation of extraction, is, that the cataract should be small as well as hard. This, however, is not always the case; and when the lens is large, the gentlemen alluded to have adopted this kind of compound operation. During the latter autumn or winter months, weather permitting, they perform the operation, in such a case, as if for solution only; making their incisions in the capsule, and of the lens, in the gentlest way; not with the expectancy that this will eventually remove the indurated cataract, but solely in the anticipation that, during the course of the intervening months, in which, for the reasons above assigned, they would have done nothing at any rate, the aqueous humour may exert its influence in removing the softer parts of the lens, whereby its size will be reduced as desiderated, for effecting the extraction in summer, at once without risk, and with facility and success. This appears to be an excellent suggestion.

And lastly, with regard to the operation of *Couching* or displacement, which, notwithstanding all that has been alleged in its favour by the French, we consider, with the Germans, the most objectionable of the three, so frequent are the immediate injurious effects, and still more those which are apt ultimately to follow, that we conceive every care and caution should invariably be employed in its performance. Of course, we mean not to deny, that, frequently, it is the most appropriate method; but when we consider the damage done to many important parts by the common operation, we cannot wonder that it is often followed by long protracted and afflictive suffering. How far the modified method of practice long extensively followed by Mr. Egerton of Calcutta, and so successfully adopted by Mr. Morgan in London, will meet this objection, we cannot say, though this proposal is well worthy of the most attentive consideration.

Lond. and Edin. Monthly Jour. of Med. Science, March, 1843, *p.* 204.

68.—USE OF NITRATE OF SILVER in certain OPHTHALMIC AFFECTIONS. By M. Desmarres. Translated from the Gazette des Hopiteaux, by Dr. Camp.

[We confess that we should be afraid to follow the practice of M. Desmarres, with respect to his peculiar mode of using nitrate of silver. We give his own views on this subject, because we presume that his practice in this branch of surgery is sufficiently extensive to make his opinions of some weight.]

The question we would first propose to ourselves is, what is the action of the nitrate of silver on the membranes of which the eye is composed. If it be employed *weak*, it diminishes the vitality of the organ, lessening the vigour of the circulation, and, as to its action, it may be compared to the action of cold water applied to our tissues. If, on the contrary, it be employed *strong*, it acts as other caustics, whose action has great analogy to that of intense cold, in the sense that they arrest, as does this latter, the circulation in parts affected by obliteration of the vessels in a greater or less degree. If we endeavor to observe at first the action of cold water on our tissues, we find, "that when applied to any region, it constantly determines, but in different degrees, a revulsion of the blood towards the deeper parts of the body, an effect made evident to the observer by the discolouration, the coldness, and the diminution in volume of the part, the capillary circulation of which is slackened, and its vitality lowered. This driving back of the blood towards the deeper parts, presents variations in its continuance proportionate to the continuance of the action of the cold water on the region where it has been applied, and as soon as this is discontinued, the return of the blood whence it had been expelled by the influence of the cold, is accomplished with a force which is in relation to the degree of temperature

of the water itself, and of the tendency which the region preserves to undergo congestion afresh. We say, then, that reaction takes place, a state which it is important to avoid, since it acts in the same sense as the dynamic condition which we seek to control by the application of cold water, unless, indeed, it be applied externally, with a view to excite this same reaction. The circulation is then seen to be active in that part, as the redness, the swelling, and the elevation of temperature, plainly demonstrate."

If, now, we study the action of intense cold, we see that it acts in the same manner, but with more energy, and in direct proportion to its intensity. Is it necessary at present to develope more at length this idea, namely, that there is a similitude of action on our tissues between astringents and cold water, between caustics and intense cold? As to caustics, do they not destroy the parts they touch? In this their action does it not resemble, in some respects, that of intense cold, which, like them, produces an eschar, a true gangrene, local and circumscribed, which varies in the rapidity of its formation, its colour, its extent, its thickness, its density? In pursuing our idea, do we not arrive at the conclusion that we have sought? That the nitrate of silver acts as astringents, or as cold water, if it be weak—or as caustics, and as intense cold, if it be strong. Then, if we employ it weak, or as an astringent—that is to say, as we employ cold water—it will be necessary to take certain precautions, so that the reaction so serious in diseases of the eye do not supervene, as it would infallibly in a limb submitted during an hour, for example, to the application of cold water, which is suddenly discontinued.

It is easy now to imagine what would infallibly happen, but by the most happy chance, when, in an inflammation of the external tunics of the eye, without intolerance of light (a lymphatic conjunctivitis, a superficial vascular inflammation of the cornea, an atonic ulcer, &c,), we prescribe a weak astringent collyrium to be applied by some drops daily. The blood feebly and momentarily expelled from the capillaries, soon arrives there again with a force and rapidity in inverse proportion at once to the astringency of the collyrium, and to the frequency of its instillations into the eye. This organ, from the moment when the first drop of collyrium is introduced, becomes injected throughout, and the parts, healthy until then, submitted to its action, react in like manner to the parts diseased, resist sometimes a first application, and resume their normal colour, but soon actually inflame, if the instillations are repeated, especially at considerable intervals. Thus the conjunctiva reddens, then inflames, the sclerotic coat becomes covered with vessels, the pupil contracts, photophobia and epiphora supervene, and all the serious chances of a violent external ophthalmia, very often of an internal ophthalmia more or less intense, with their troublesome consequences, remain to the practitioner. It is then necessary to have recourse to the antiphlogistic treatment, particularly to free bleedings, to oppose this terrible reaction, which might have been prevented by a better treatment, and to which, now, the limits cannot be assigned. Am I deceived in stating, that it is precisely because attention has not been directed to this reaction hitherto, that the administration of the remedy has so often failed in cases where it was, notwithstanding, indicated?

In general, I do not employ the nitrate of silver in a very weak form, for the reasons above given, because the reaction is so much the more to be feared as we employ remedies less strong. It must not be supposed, however, that I administer it as a caustic, as the partizans of the ectrotic method recommend, for I have known that it is better always to preserve a proper medium between these two extremes. The reason of it is, perhaps, in the first, that an eschar once formed removes the subjacent tissues from the action of the collyrium, and that nothing then hinders further the reaction from compromising all. We may judge of it, besides, by the swelling of the eyelids, which in this case follows the application of the caustic. The strength of the collyrium which I employ, varies from 40 to 90 centigrammes of crystallized nitrate of silver, to 10 grammes of water. These proportions reduced to English weights are as follows: namely, 7 to 15 grains of nitrate of silver to 2½ drachms of water, according as the photophobia is less or more, according, also, as it is more or less

recent, as in inveterate scrofulous ophthalmic affections, for example, cases in which we act more vigorously at first. In this proportion the collyrium but seldom whitens the mucous membrane of the eye (this, however, sometimes happens with the eyes of very young children, but then I take care to diminish the strength of the nitrate of silver, recommending more frequent instillations). This done, the most important indication to attend to, is to prescribe to the patient repeated instillations into the eye, every half hour during twenty-four hours without interruption. In some rare cases it is necessary to go on with the instillation every quarter of an hour during the first two or three hours of the treatment. I take care to forewarn the patient that, during these two or three hours, he will experience considerable pain, because this is the usual period necessary for tolerance to become established, but that after that time the pain will become very supportable, and will be followed by evident amelioration, which is invariably the case. In this manner the diseased eye is not liable to reaction, because the force of repercussion acting in a continued manner, maintains the vessels in a state of contraction which this reaction is unable to overcome. If I can see the patient five or six hours after the instillation of the first drop, I judge by the state of the organ whether or not the reaction tends to supervene, and then, if not, I continue; if it do, on the contrary, I increase the strength of the collyrium, one and a half, two, or three grains of the nitrate of silver. If I cannot see the patient until after twenty-four hours, I prescribe immediately a collyrium a little stronger, and I have nothing to fear. In some cases, in which I cannot trust to the perseverance or the good-will of the patient, I recommend fomentations of iced water to assist the action of the collyrium. However, I ought to say this has but seldom occurred to me in more than sixty cases. After twenty-four hours, reaction does not supervene, but the intolerance of light is not always subdued completely, although the injection of the external tunics of the eye is usually diminished; and in this case, as in the other, I increase the strength of the collyrium, and after forty-eight hours, rarely more, the ophthalmia is at its second stage—I mean the acute form no longer exists. Then the instillations are repeated less often—every hour, for example, at length discontinued, and then replaced by a general appropriate treatment. *Medical Gazette, March* 10, 1843, *p.* 860.

69.—TINCTURE OF IODINE FOR THE LIDS IN CONJUNCTIVITIS.

[The Part VI. of the Retrospect, Art. 53, contains an article by Dr. Hocken bringing before the profession the practice of Mr. Wormald, of St. Bartholomew's Hospital, of applying the nitrate of silver to the outside of the eyelid in cases of strumous ophthalmia, and gives some very interesting reasons why this mode of applying it should be so successful. Dr. Furnivall, physician to the General Infirmary at Hertford, thinks that he is equally successful by applying in the same way the *tincture of iodine*, which may be made rather weaker than the common strength for children with fine skins. Dr. Furnivall states that this practice has been exceedingly beneficial; the distressing lachrymation in strumous ophthalmia is soon relieved, and in many cases ulceration of the cornea was arrested. The tincture may be applied by means of a small camel's hair pencil, painting it over the outside of the upper and lower lids, taking care that it does not enter the eye itself; this may be repeated two or three times a week according to circumstances.

Dr. Hocken's explanation of the cause of intolerance of light seems to be correct. His opinion is, that this intolerance is not owing to any affection of the retina, but to the ophthalmic division of the fifth nerve, which supplies sensation, nutrition, and secretion to the eye and all the other contents of the orbit, and overrules the functions of the lachrymal gland. He believes that the retina itself is in direct communication with the fifth through the medium of filaments distributed with those of the optic nerve, not as Magendie thought, as the actual nerve of sight, but as the source of common sensibility to light, and the medium of impressions on the pupil through the lenticular ganglion.]

Lancet, Dec. 10, 1842, *p.* 405.

70.—CREOSOTE IN DISEASES OF THE CORNEA AND CONJUNCTIVA.

By Dr. Hildreth, Zanesville, Ohio.

[Dr. Hildreth was induced to try this remedy in combination with other means, in several obstinate cases of ophthalmia which had resisted the ordinary methods of treatment. He concluded that as it had been found of great service in affections of the skin and mucous membranes in other parts of the body, it might have a beneficial effect on the coverings of the globe of the eye. He first used the creosote in 1836, in a case of opacity of the cornea, the result of scrofulous ophthalmia, which had existed three or four years. The cornea of each eye was of a pearl white, interspersed with red vessels; there were also numerous small ulcerations over the surface of each cornea; the eyes were, nevertheless, very sensitive to light. All the usual means were had recourse to—alterative cathartics, tonics, such as iron and quinine, a tolerably liberal diet, with exercise in the open air, the daily use of the saline bath, followed by vigorous frictions of the skin. Under this treatment the intolerance of light became less, and the nitrate of silver was applied to the conjunctiva both in substance and in solution (11 grains to the ounce), but still the eyes improved so slowly as to be very discouraging to the parents.]

The remedies appeared to have lost their influence, and the extreme repugnance of the child to the caustic, had compelled them to abandon it. I then prescribed the strong mercurial ointment, half an ounce, to be intimately combined with fifteen drops of creosote. A small portion of this to be introduced under the upper eyelid when drawn off from the globe, and then brought in contact with the cornea, and rubbed over the whole conjunctival surface; to be repeated morning and evening. This prescription had a much better effect than any previously in use. During the first week of its use, there was a perceptible improvement of vision. The effused lymph under the conjunctival covering of the cornea, or between its laminæ, began to be absorbed; the enlarged vessels under the strong astringency of the remedy, began to diminish in calibre, until under its continued use they disappeared entirely. This combination was continued for two months, occasionally adding a few drops of creosote, to maintain its strength. At the expiration of this time, all trace of inflammation or ulceration had disappeared from the eyes; but the patient was found very near-sighted. Concave glasses have, however, in a great measure overcome this defect.

Did the limits of this paper permit, many other cases of scrofulous ophthalmia, both acute and chronic, might be cited, which were promptly cured by the creosote. As we have prescribed little else, as a topical application in strumous cases, for several years, we can speak positively as to its efficacy, when combined with the proper constitutional treatment. As creosote is acknowledged to be one of our best remedies in various eruptive diseases, as well as ulceration of the external integuments, and mucous membranes, we should naturally expect some advantage from its use in scrofulous ophthalmia. For in this disease also, we have usually a distinct pustular eruption, succeeded by ulceration.

In all cases of scrofulous ophthalmia, whether acute or chronic, we have found the creosote a most effective remedy, in connection with the proper constitutional treatment. It should be applied to the eye of such a strength, that the burning or smarting pain from it shall not continue more than *five minutes after its introduction*. If much inconvenience is felt from it for a longer period, the ointment containing it must be diluted with simple cerate, or fresh lard perfectly pure.

The more chronic the case, the more creosote will be required and borne. My usual prescription is from ten to thirty drops to the ounce of strong mercurial ointment; more than this may, perhaps, be required in some very chronic cases, where the eye has become somewhat insensible from long continuance of active stimulants. Should the remedy prove too irritating, frequent bathing the eye with warm milk and water, or the introduction of a few drops of cold cream into the inner canthus, will soon destroy its effect. As creosote evaporates rapidly, the ointment must be kept air tight, otherwise a few drops must occasionally be added to preserve its relative strength.

One decided advantage of the creosote over caustic in scrofulous ulceration of the cornea, is its facility of application. The ointment can be introduced under the eyelid, and rubbed over the whole globe, when it would be found impossible to persuade the child to submit to the repeated application of the caustic in substance to each separate ulceration or opacity. We believe, also, that it will be found more efficacious in reducing vascularity, promoting absorption, and healing ulceration if applied of the proper strength.

As disease of the meibomian follicles, or ophthalmia tarsi, is almost invariably present in cases of scrofulous ophthalmia, the creosote ointment will prove a most excellent remedy for this complication. For this purpose, however, we have found its combination with red precipitate ointment a better preparation.

When psorophthalmia is of a very chronic character, we have no substitute for the pencil of nitrate of silver, applied directly to the diseased follicles.

Granular conjunctiva is another disease of the eye, which is very frequently overlooked by the geneal practitioner. This is the more unfortunate, as it is a disease of a very frequent occurrence. It will, no doubt, be found, on careful examination, that a large majority of the cases of vascular albugo, or nebula, of a chronic character, are either produced or perpetuated by this lesion. Notwithstanding its frequency, I have known the most respectable practitioners treat cases of opacity of the cornea, accompanied by this change of structure, for months and years, without ever everting the upper eyelid. The treatment consists in the removal with the knife, of vascular excrescences, or the surface of the conjunctiva itself, if very exuberant: frequent scarifications, and touching the whole diseased surface every two or three days, with nitrate of silver, or sulphate of copper in substance, counter-irritation by tartar emetic, or blisters, &c.

The preparation of creosote, and blue ointment, or in combination with red precipitate ointment, (if the case be very chronic), will also be found a most valuable adjuvant. The strong astringency of the creosote, will tend to reduce the increased vascularity of the surface, while the mercurial will materially assist in the reduction of enlarged glands and follicles.

Should vascular albugo or nebula accompany the diseased membrane, its stimulant, astringent, and sorbifacient virtues will prove still more valuable. It should be applied in the manner before directed in scrofulous ophthalmia; and continued until the mucous surface becomes smooth and polished. If we stop short of this, the eye will be left very irritable, and any exposure will tend to reproduce the disease, with its accompanying inflammation, and opacity. We have also found the creosote applicable to many of the diseases of the conjunctiva, and cornea; for which the nitrate of silver is the standing prescription of the best authors. In simple inflammation of the conjunctiva, or puro-mucous conjunctivitis, we have not prescribed it, until the inflammatory symptoms have yielded to antiphlogistic and other remedies. In purulent ophthalmia, however, it may be used earlier, in conjunction with the active constitutional treatment advised in the books. In these cases, however, we are not aware that the advantages to be derived from its use, will exceed those of other topical applications of established efficacy.

In the scrofulous eruptive disease of the cornea, in vascular opacity, and superficial ulceration, we have found it a decidedly better remedy than the nitrate of silver; but in dense opacity, or leucoma, and in deep penetrating ulcers when we fear perforation of the cornea, and escape of the aqueous humour, we believe the nitrate in substance the better application. In many of the chronic diseases of the external tunics, we are in the practice of combining the use of the nitrate of silver and creosote, with most excellent results. In fine, we are quite confident the creosote will prove a very valuable addition to our stock of remedies for diseases of the eye. *Amer. Jour. of the Medical Sciences, Oct.*, 1842, *p.* 364

71.—ON A VARIETY OF FALSE ANEURISM.

By Robert Liston, Esq., Professor of Clinical Surgery in University College.

[The following is Mr. Liston's account of this unfortunate case. We think that this excellent surgeon has been ill used by the reflections which have been thrown upon him. If such an acute observer could commit an error

of diagnosis, how careful ought all other surgeons to be in operating on this particular part of the body. He proceeds as follows:]

My attention has lately been particularly directed to the subject of communications between large blood-vessels and the cysts of abscesses, in consequence of having, a few weeks ago in my hospital practice, met with a remarkable case, in which the carotid artery opened into a large abscess in the neck. My conviction has always been with those who hold that "there is often more of instructiveness in an unfortunate case than in a fortunate one;" and, accordingly, I venture to lay the particulars of the case referred to before the society, as not altogether devoid of practical importance, and therefore of interest to the members. I have referred to other cases in confirmation of my views, and have thrown together a few remarks suggested by a consideration of the subject generally.

Hæmorrhage from the cyst of an abscess, to a slight extent, often follows the evacuation of its purulent contents, more especially when the operator evinces an anxiety to empty the cavity as far as he possibly can, by forcibly squeezing and compressing its sides. The blood is then furnished by the vessels of the lining membrane, whose connexions with its bed are broken up; the bleeding in other instances is attributable to the loss by the vessels of their accustomed support. In either way, the cavity is filled with blood, which may ooze from the opening for a time; but coagula are formed by and by, and breaking down at last, are discharged with the secreted pus. Bleeding from abscesses may also take place from vessels, arterial or venous, wounded in the operation of opening them. All such effusions are in general speedily arrested, by attention to position, and by pressure applied over the opening or to the surface of the abscess. Larger arterial trunks on which abscesses encroach, are generally well protected by a deposit of coagulable and organized lymph around and about them, so that hæmorrhage from them is comparatively rare; the nerves, on the contrary, are often stripped of their cellular sheaths, and their fibrillæ are macerated and detached. Occasionally, however, all the parts in the neighborhood of an abscess appear to be dissected, the coats of arteries among these becoming denuded by the extension and pressure of the purulent deposit. The requisite supply of blood to the coats of the vessels is thus diminished or entirely cut off and as a consequence, ulceration and sloughing, with perforation from without, ultimately occur. This has happened in some instances before the matter had wrought its way to the surface, and before the opening had been made by the surgeon. In other cases, again, the vessel has given way sometime after the pus had been evacuated. In the cases which have come under my notice, the abscess has lain beneath the vessel, which has been pushed forwards upon the cyst, and put very much upon the stretch. This stretching of the vessel, together with the natural tendency of purulent matter to the surface, may so far account for the giving way of its parietes. Under any circumstances, such an occurrence as the perforation of a large artery by ulceration, is very alarming, and calls for the best directed and most energetic efforts of the attendants to prevent an immediately fatal result. But the existence of a communication between a large vessel and the cyst of an unopened abscess, it may readily be conceived, cannot always be easily ascertained. The history and progress of the swelling, indeed its situation, form, &c., will all generally be very different from those of a true aneurism; still there may be no signs, or if any, very slight ones, of the existence of a communication with an arterial trunk. In cases of large abscesses, the contents of which have been partially evacuated, and into which blood is afterwards poured, so as to distend the sac enormously, the surgeon may perhaps for a time be led to think that the bleeding is from some inconsiderable branch, and may only at last be convinced of the danger to which his patient is exposed, after repeated hæmorrhages have taken place from the opening. Perhaps the blood escapes at first from a minute aperture in the vessel, and drains but slowly into the cyst. It coagulates, and by slight pressure on the opening, the flow is arrested. But as the ulceration extends and the opening enlarges, or as the patient rallies and the circulation becomes energetic after each renewal of hæmorrhage, the bleedings occur more frequently, and in a more alarming way, and cease only upon the patient falling into a state of complete syncope, or upon accurate pressure

being made over the trunk of the vessel from which the blood is flowing, at a distance from the disease. The first case, the particulars of which I shall detail from the records of the house, occurred a short time since in University College Hospital.

Case I.—G. A., æt. nine, had been a healthy infant, but about six years ago he suffered from severe illness, and was left in a very reduced state. About two months back he had a violent cough, together with considerable fever; at this time a small swelling was first observed in the neck, immediately below the right ear; this was merely fomented and poulticed. It increased gradually and slowly until within three or four days of his admission into the North London Hospital, when its progress became more rapid and its shape irregular. He presented himself October 20th to Mr. Liston, at the usual visiting hour, having a tumour at the angle of the jaw on the right side, extending backwards as far as the posterior border of the sterno-mastoid muscle (the upper part of which was pushed forward), downwards to within an inch of the clavicle, and forward to about half the length of the horizontal ramus of the lower jaw. It projected into the mouth between the arches of the palate, impeding in a great degree both respiration and deglutition. Its most prominent point was posteriorly and superiorly at the outer border of the sterno-mastoid. Indistinct fluctuations could be felt, and there was slight pulsation in it immediately over the carotid artery; but on grasping the sides of the tumour no pulsation could be discovered, nor could any be felt inside the mouth. Mr. Liston made a small puncture into the tumour under the impression that it contained matter; a gush of arterial blood followed the operation, and about four ounces were lost in a few seconds; the wound was closed by hare-lip pins and twisted suture, and the bleeding thus checked. Mr. Liston determined to tie the carotid on the next day.

October 21. No hæmorrhage during the night, but cold was constantly applied, as the tumour seemed to be very tense. This morning the carotid was tied. The patient being placed on the operating table, an incision about an inch and a half in length was made transversely over the sternal extremity of the clavicle, and another upwards, at right angles to the first incision, over the trachea. A V-shaped flap was turned upwards and outwards; the sternal attachment of the sterno-mastoid being exposed, was cut across; the muscle was very black, as if the sheath were occupied by effused blood. The sterno-hyoid and thyroid muscles were next exposed, after some dissection. A small vein was cut which bled freely, but after a little time this hæmorrhage ceased without the application of a ligature. The muscles over the trachea were then cut across, and after a troublesome dissection the carotid was exposed a little above its origin from the innominata, and tied. The great difficulty of the operation arose from the necessary smallness of the incision. The tumour projected downwards so low in the neck, that it was impossible to extend the incision upwards; and the artery, which appeared to be at a very great depth from the surface, was to be sought for at the bottom of a small hole. The flap was laid down, and retained by some isinglass plaster. The boy complained very little after the operation. The swelling very soon became firmer and less tense, and the movements of the jaw, which before were much restricted, were now more free and less painful. The pupil of the right eye, which before was contracted, and partially insensible to light, was now restored to its proper functions. The patient slept soundly all the night following the operation. Nothing particular occurred till

November 3d, five P. M.—A few minutes since, while the boy was eating a piece of bread, a sudden gush of arterial blood took place from the wound in the forepart of the neck, the ligature being still firm. The hæmorrhage was suppressed by plugging the wound with lint. A considerable quantity of blood was lost. Hæmorrhage returned six times after this; the last one left him in a state of perfect collapse, from which he never recovered, and on November 5th, he died at five P. M.

In the *post mortem* examination there appeared considerable fulness on the whole of the right side of the neck, but much less than shortly after the operation. Pressure caused a quantity of dark grumous blood to ooze from the tu-

mour. The lymphatic glands were found enlarged and matted together by lymph. The ligature was found to have been placed close to the origin of the carotid from the innominata; it was not completely separated, a small portion of the external side of the artery still remaining entire. The proximal end of the vessel was quite open, and admitted a large sized probe; there had been no attempt at the formation of a clot, or if any had been formed, it must have been expelled with the blood. The distil end of the vessel was sealed by a firm coagulum, and around the situation of the ligature was a considerable deposit of firm lymph. The arteries arose from the arch in the usual manner. The dissection in the superior part of the neck was now proceeded with. The parotid and sub-maxillary glands, &c., and the side of the lower jaw having been removed, a large tumour was brought into view, extending from the side of the trachea and pharynx, outwards as far as, or a little beyond, the external border of the sterno-mastoid; upwards to the base of the skull, and downwards to about an inch below the bifurcation of the carotid; behind it was limited by the spine and its muscles. Over the anterior surface of the tumour could be traced the carotid artery, free to within three quarters of an inch of its point of division, where it became firmly connected with the swelling. Both the external and internal carotid were connected to the tumour for about an inch from their division; the internal, however, was the more intimately attached. The internal jugular vein passed over the anterior aspect of the tumour, but the vagus nerve was found to issue from behind. Both the internal and external carotid were now cut through, the former at its entrance into the bony canal in the temporal bone, and the tumour was dissected from its situation, turned downwards, and, together with the heart and arteries, removed from the body.

An incision was then made into the posterior part of the tumour, which was found to contain a quantity of dark grumous blood, external to which was a thin layer of organized lymph which entirely lined the parietes of the cyst. A probe was passed down the internal carotid artery, and found to enter the cyst just opposite the division of the common carotid; this point was, however, obstructed, a mass of coagulable lymph almost entirely blocking up the entrance. The parietes of the tumour behind were about a line or more in thickness, but on the outer side, on the aspect adjacent to the puncture, they were much thinner. They appeared to be composed of three layers, differing in character, but organically connected together. The outermost layer consisted of condensed cellular tissue having portions of the surrounding structures attached to or imbedded in it. The middle layer, which was not so evident on the outer side of the tumour, was very dense and opaque, so that it appeared like a distinct white line on a section of the parietes of the tumour. The innermost layer was soft and pulpy, semi-transparent, and of a pale dirty red colour; its inner aspect, forming the inner surface of the cyst, was smooth, and for the most part even; but in some points, and especially at the posterior part of the cyst, it presented a fasciculated appearance like the interior of the auricles of the heart, or of a fasciculated bladder, only not so well marked; it consisted, as I have said, of a flaky lymph-like substance throughout. Opposite the outer part of the tumour (where its parietes were thinnest), this substance was flocculent and broken, and contained patches of a bright yellow colour; here it was not distinctly laminated, and it adhered rather firmly to the middle layer of the cyst, but in other situations it was easily separable into laminæ, and was not so firmly adherent. The cavity of the cyst contained a quantity of grumous blood. The common carotid and the internal and external carotid were firmly attached to the front of the tumour. The opening by which the cyst had communicated with the artery, had been about three lines wide and two and a half lines long, and was situated at the bifurcation of the common carotid. It was now completely closed by a firm clot, in which no perforation was visible, so that the probe which had been passed down the internal carotid into the cavity, must have been forced either on one side of this clot or through it. On the side next the vessel, the surface of the clot was concave, broken in the centre, but smooth towards the circumference, where it was closely adherent to the margin of the opening in the carotid artery. The opposite side of the clot was convex, and projected into the

cavity of the cyst. On making a vertical section through the artery, the walls of the tumour, and the clot, the latter was seen to be composed of fibrinous laminæ. The edges of the opening in the vessel were found to be well defined and slightly everted; the external coat of the artery was distinctly traced, and afterwards dissected from the middle coat quite up to the margin of the opening, where it terminated abruptly, not being reflected on to the inner surface of the tumour. The coats of the vessel showed not the slightest dilatation at the part where it was connected with the tumour. The vagus nerve descended in front of the tumour on the outer side of the internal and common carotids. On coming into contact with the tumour it was much enlarged, and was firmly connected with the outer and middle layers of the wall of the cyst. The filaments of the nerve were spread out, and some of them were merely separated from the cavity of the cyst by the internal soft pulpy layer; the nerve passed off again from the lower part of the tumour. A portion of the spinal-accessory nerve was attached to the outer side of the tumour, and the superior cervicle ganglion of the sympathetic was deeply imbedded in its posterior surface.

Dublin Journal of Medical Science, Jan. 1843, *p.* 374.

[The following case is published by Mr. Alexander King, of Glasgow, and will in some measure bear out the opinion of Mr. Liston. Another case, somewhat analogous, is narrated in the appendix to Mr. Liston's recent memoir, *On a variety of False Aneurism*, by Professor Fergusson, of King's College. "In that, as in the present case, no operative interference was resorted to, in consequence of the debility of the patient, and the child died suddenly of hæmorrhage, which was found, on dissection, to have taken place from an ulcerated opening in the lingual artery, near its origin from the carotid." Mr. King's account is as follows:]

On Saturday the 12th November 1842, I was invited by Mr. John Brown, surgeon, whom I met accidentally in the street, to accompany him to visit a patient, of whom he afterwards gave me the following account. Sixteen days before, a boy, aged four years, who had previously enjoyed excellent health, and was stout and well-formed for his age, was seized with symptoms of pyrexia, followed by the eruption of scarlatina, which disappeared in a few hours, without any obvious cause. Very considerable constitutional disturbance followed, and on the second day a diffused swelling appeared on the right side of the neck, below the lobe of the ear, considerably impeding deglutition and respiration, and giving rise to an incessant tickling cough.

The swelling for some days remained stationary, but eventually evinced a tendency to suppurate, and after the application of poultices it pointed and burst, three days before our visit, leaving an opening into which a No. 8 cathe ter could be introduced. A quantity of pus was discharged; the swelling gradually subsided, and everything seemed to proceed to a favourable termination, till about five minutes before our arrival, when the girl who was holding him, observed blood running down his breast from underneath the dressings, and on removing them to ascertain whence it proceeded, two jets were propelled forcibly upon her face and cap.

On removing the cloths which had been applied to arrest the hæmorrhage, we found blood still flowing in a free stream from the opening already described; the walls of the abscess were tense, about the size of a hen's egg, which, according to the mother's account, was larger than before the abscess first gave way. It occasioned considerable difficulty in breathing, and gave rise to occasional severe paroxysms of coughing, during which it became excessively firm and prominent.

Pressure on the carotid did not, in any manner, alter the state of the tumour, and pressure directly applied to its walls immediately brought on a fit of coughing, but did not appear to displace any of its contents. The pulse was extremely quick and feeble, and occasionally intermitting; the countenance was pale and blanched. Uncertain from what source the blood escaped, we resolved to apply a compress and bandage to support its walls, and allow coagulation to take place, but we found that when the bandages were applied tightly, the child's breathing was considerably impeded, and almost incessant coughing took place. so

that we were compelled to apply them less accurately than we could have desired. During the afternoon, hæmorrhage again occurred, and Mr. Brown required to apply additional compresses. We both visited the patient again at mid-day on Sunday, and found the tumour had increased in every direction, and more compresses were needed to suit the altered circumstances of the case; but it was now evident, from the attenuated condition of the part of the walls which we saw, that such mechanical means would soon prove ineffectual in restraining its contents, as coagulation had evidently taken place to a very limited extent; however, the debilitated condition of the child, and the uncertainty of the injured vessel, dissuaded us from operative interference. We therefore resolved to give a further trial to pressure, and left directions to send for Mr. Brown, whose residence was within a few yards, should hæmorrhage occur. We again visited the patient about seven o'clock the same evening, and found that the tumour had still farther increased, and had impeded the respiration to such an extent, that the parents had found it necessary to loosen the bandages a little. We agreed to remove the compresses and bandages, so as to ascertain exactly the state of the tumour, and if it gave way (for which occurrence we were fully prepared), to restrain the hæmorrhage by making pressure on the injured vessels with the finger, and afterwards secure it with a ligature. When the bandages were partly removed, the child was seized with a violent paroxysm of coughing, during which the anterior wall gave way, to the extent of two square inches A thin coagulum, about the size and thickness of a crown piece, was ejected, followed by an immense gush of blood. I instantly introduced the first two fingers of my right hand into the opening, and surrounded the fingers and the tumour with cloths, and very little blood was afterwards lost, although my fingers could not get either to the upper or lower orifices, in consequence of the lower part of the tumour being covered by the parotid gland, and sterno-cleido-mastoid muscle. When my fingers were first pressed into the abscess, I felt blood flow freely downwards from above, and propelled upwards with great force, during each forcible expiration. A state of syncope followed in a few seconds, and he expired shortly afterwards.

Dissection, ten hours after death.—The swelling had entirely disappeared, and the skin, which had previously covered the tumour, had contracted in every direction, so that it could hardly be conceived that so much distension had ever existed. On dividing the integuments, from the lobe of the ear, to the middle of the neck, we found that the tumour, to a certain extent, had been divided into two sacs, which communicated very freely. The one extended below the digastric muscle and parotid gland to the base of the skull; the other having the parotid gland for its posterior wall, the sterno-mastoid muscle for its external, the platysma fasciæ and skin for its anterior. On cutting through the substance of the parotid, which was sound and healthy, and the posterior belly of the digastric muscle, a very distinct view of the source of the hæmorrhage was obtained. Nine-tenths of an inch of the external wall of the *internal jugular vein*, commencing two lines below the base of the skull, and extending downwards, was completely removed, as if by a sharp scalpel. The internal wall, and even the margins of the opening, were perfectly healthy, and of the normal pearly white colour. The common carotid, at its division, was exposed by removing a little healthy cellular structure, and showed no appearance of disease. The walls of the abscess were examined in every direction, and found to be healthy, and an incision, two lines in depth at any point, displayed the surrounding structures in a natural state. We were not permitted to examine the viscera

This case was surrounded by many difficulties. The most probable source of hæmorrhage was a rupture of some of the branches of the external carotid, but pressure upon that vessel having no effect upon the tumour, we did not consider ourselves justified in applying a ligature below the site of the disease. Indeed the child was so exceedingly exhausted from other causes, that there were no reasonable grounds for indulging a hope of saving its life, even although the hæmorrhage could be checked, without the infliction of any additional shock on the system, and it is fortunate, as the result shows, that no such operation was performed. We might have laid open the tumour, searched for, and secured

the bleeding vessel, and, but for the debilitated condition of the patient, this procedure would have been followed; but as it was evident, from the state of the pulse, that the loss of a very trifling additional quantity of blood would prove fatal, we considered it most judicious to endeavour to effect coagulation. The regurgitation of the blood from the right side of the heart, during the act of coughing, rendered our attempt abortive.

I do not consider that the child's life could have been saved, even if we had possessed the fore-knowledge of the state of parts which were displayed on dissection. A ligature could not have been applied between the laceration and the base of the skull, even granting that the internal jugular vein could be tied with impunity.

On our first visit, the tumour had exactly the appearance of a neglected abscess. The distension and colour of the integuments would have induced us at once to give relief by an incision, had not the small opening referred to, existed, and had such a mistake been committed, I do not think the hæmorrhage could have been even temporarily arrested, in consequence of the attenuated condition of the walls. The case presents a striking proof of the danger likely to occur, from rashly opening abscesses in the vicinity of important vessels; and, in the locality of this tumour, it is feared that strumous abscesses are every day laid open, after a very cursory examination.

Lond. and Edin. Monthly Journal of Med. Science, March, 1843, *p.* 177.

72.—ON WHITE SWELLING OF THE JOINTS.....By M. Lisfranc, Paris.

[Lisfranc distinguishes white swellings into those in which a sub-inflammation exists, and those in which no trace of this is present. He thinks that]

They are in error who state that the mere *engorgement* of the soft parts can always be easily distinguished from an enlarged condition of the bone. He long believed erroneously with others, that a firm or flinty consistence of the swelling was necessarily a proof of an affection of the osseous system. In such a case he now hesitates before he ventures an opinion—especially if the tumour do not present an irregular surface. By suitable treatment the induration often becomes moveable upon the bony parts—these last remaining nearly or quite healthy. In such cases, the disease has proceeded from without inwards—the deeper-seated soft parts being those last affected; and, hence, yielding to the means employed, they have become soonest cured, and the more external tissues, remaining indurated, are moveable upon them.

"There is one peculiar form of white swelling, which, I believe, I was the first to describe. The joint is but little increased in size, and the swelling gives, when touched, the sensation of an elastic or spongy body, such as the spleen or placenta, or a lipoma about to undergo degeneration. Here and there are formed small but very numerous abscesses, separated from each other. When these burst there is discharged, with the pus, a flocculent matter, produced by the death of the tissues involved. I have as yet never been able to cure any of these cases. At the autopsies I have found a lamellated tissue, traversed by a great number of vessels, and containing white granules, resembling tubercles. This tissue was absent at the points wherein the little abscess had cicatrized, being replaced by ordinary inodular substance."

He inquires whether it would, in these cases, be prudent to employ means to increase the inflammatory action, and thus expedite the suppurative process. The peculiar tissue in question is at first superficially placed, and might it not be removed by operation, when it occupies but a limited space?

In cases of white swelling it is very important to be assured of the condition of the thoracic and abdominal viscera; for, where diseases of any of these exist, they have sometimes been found to make progress in proportion as the affection of the joint becomes amended—even requiring that irritation should be reproduced in the latter. When the visceral affection is incurable, but stationary, we do not treat the white-swelling actively, unless it become dangerous; and, in fact, we may have to pay our attention especially to the external or internal malady, as either may become alarming, and, by this temporizing conduct, may often succeed in prolonging the days of the patient, when they would be cut

short by a more vigorous procedure. Unfortunately the thoracic and abdominal affections are often *latent*, and resist our means of investigation—so that death may speedily follow the cure of the disease of the joint, in consequence of some unsuspected organic affection. Whenever the disease of the joint, without any obvious cause, undergoes many vicissitudes, so that, from being nearly cured, it relapses into as bad a state as ever, we must suspect something wrong in the system, although no special symptom be present.

Abscesses, formed *around* the white-swelling, should be opened as promptly as possible, while, when formed *within* the substance of the engorgement, exit must be given to the pus as late as possible—providing the inflammation be not acute—that there be no danger of the pus penetrating the joint—and, that the skin be not denuded of cellular tissue. It is very easy to be deceived as to the existence of pus—while the sojourn of this fluid in contact with the indurations proves to be one of their most powerful solvents. The most experienced surgeons often have great difficulty in deciding whether a collection of fluid or pus be situated within, or external to the joint. The alternative of amputation decides the surgeon in determining to open the collection, and, if symptoms follow which denote that the cavity of the joint is exposed also, he proceeds at once to amputate.

M. Lisfranc considers that, in general, much too little importance is attached to *regimen*, in *chronic surgical disease*. The ordinary, and sometimes an excessive diet is permitted, and the great aid in dissipating engorgements, derived from allowing patients, in some degree, to what he calls, "live upon their own substance" (i. e., a starvation regimen), is lost sight of. He has repeatedly known these tumours, which have resisted every other means, to become dispersed after diminishing the diet one third or a half. Exceptions will occur to this, when the patient is excessively feeble or scrofulous, and when the digestive organs suffer from the change.

If the patient be strong, and any acute inflammation exist about the joint, one or more bleedings from the arm, and afterwards leeches, will be required. But the periods of employing these must not succeed each other too rapidly—for chronic diseases, by their duration, frequently induce great debility; and inflammation, seated in these abnormal tissues, is not susceptible of the same ready removal as when it occurs in healthy ones. Local emollient and anodyne baths, continued for two hours at a time, are useful. Although, by appropriate means, the inflammatory element may disappear in a month, it may persist in other cases for three, six, or nine months, and, to such cases, which may also have resisted mercury and barytes, we must oppose time, and the continued application of small relays of leeches. Eventually the moxa may be employed. It is rare, indeed, to find one of these swellings dissipated by antiphlogistics alone. A slight diminution of volume only results from the subsidence of inflammatory action. After the employment of antiphlogistics, an interval must be allowed prior to commencing the use of stimulants—but the presence of occasional pain, or pain which has resisted depletion, must not deter us. *Leeches* may be applied for other than the ordinary reasons. From three to six, or eight, placed around the base of the tumefaction, will cause a degree of heat and excitement in the swelling, when torpid, and favour absorption.

[The leeches may be repeated in this way several times, taking care that the bites do not bleed for more than a quarter of an hour, for fear of the debilitating effects. Cupping may be substituted, and acts as an antiphlogistic or stimulant, according to the quantity of blood drawn.]

Compression is useful by preventing the too free access of blood to the tumour, and causing a slight degree of excitement at its surface. It is most advantageously applied so that it may extend an inch beyond the circumference of the tumour. If employed in improper cases, it may occasion inflammation or gangrene, and, in all, requires regulation in its various degrees, according to the stages and peculiarities of each. Thus the mere application of diachylon, the use of bandages and agaric, and the application of leaden plates to the part, excite different degrees of compression. The compression may be readjusted every twenty-four hours, and its employment does not exclude the use of iodine

ointments, and the various internal remedies. Even after the tumour has disappeared, especially when of a scirrhous consistence, compression must be continued for several weeks longer.

It is to be rejected—1. When considerable inflammation exists. 2. When the tumour, though small, is very hard, unequal, knotted, adherent to the skin, and especially if this latter be red or discoloured. When, however, the scirrhous mass has been removed, we may employ pressure. 3. When the tumour is in some parts indurated, and in others pultaceous.

The author believes Dr. O'Beirne's conclusions concerning the utility of *salivation* in these cases, are too general, and too premature. This practice is attended with great success, only when inflammatory action is present, although it even then requires the aid of other means to effect a cure, as, after a certain degree of amendment, the case remains stationary. Mercurial inunction, carried to salivation, is equally useful as the calomel. When no inflammation of the part exists, the mercurial ointment, applied by topical friction, is an excellent solvent, but, when inflammation does exist, it must be applied in thick layers, to remain in contact with the part, as recommended by M. Serres, when it acts as an antiphlogistic, and not, as in the case of friction, as a stimulant to absorption. All friction with iodine ointments must be foregone as long as any inflammation exists. The ioduret of lead is the best preparation, but any that may be used requires watching, lest excitement to an injurious extent be produced. He has found iodine, and especially the hydriodate of potash given internally, very useful, particularly in scrofulous cases.

Blistering must not be employed when even sub-inflammation is present, being as it is, essentially stimulant. If blisters are placed *upon* the tumour itself, when the skin is indurated or adherent, acute inflammation of a most obstinate character will be produced, and which would have been avoided by placing them in the vicinity of the part. When the blister occasions an injurious degree of inflammation, we must meet this with leeches, &c. We must judge of the ultimate effects they are likely to produce by the degree of irritation that results.

The application of the *moxa* follows the same rules as the use of blistering, and its repetition has been found useful in some cases wherein amputation was imminently threatened. When a repetition is likely to be required, the moxa must be of only a small size, somewhat less than a shilling.

The *seton* is the most exciting of all exutories, and must not be employed until the inflammatory action has subsided. It should not be passed through the substance of the engorgement, but on one side of it. It is only to be employed when all other excitants have failed.

There are cases of white-swelling, which, after proceeding well on towards a cure, remain, at length, quite stationary, treat them how we will. In these we must abandon all active measures, contenting ourselves with hygienic precautions, and sometimes in a few weeks we may find the swelling much dissipated, and, even if still persistent, the various therapeutical agents will usually be resumed with much greater advantage after such an interval.

M. Lisfranc states, that, in his hands, the *muriate of barytes*, given in large doses, has been found very successful, the patient being also during its use confined to a vegetable diet and water drink, upon which, however, he often gains both flesh and strength. He begins with six grains, and reaches in some cases, as high as forty-eight grains per diem, while, at Marseilles, and in Italy, two drachms have been given in the same period. He alludes to many cases, in which the employment of this medicine has saved limbs, that must otherwise have been removed by amputation.

When the white-swelling dates from a *rheumatic* origin, it has been recommended to place an irritant, such as a blister, upon the joint itself. This practice is attended with the danger of fixing the locality of the inflammatory action; and M. Lisfranc prefers, in the case of the knee-joint, *e.g.* placing the blister at the upper and outer part of the thigh; and in following this practice he has met with great success. In some of these cases the pain, which is so distressing, has disappeared under salivation as if by enchantment.

After a cure the joint is not at once enabled to resume its functions. The patient has remained at rest during a long space of time, and pain attends his first movements. If this ceases in a quarter or half an hour after attempting to walk, &c., we conclude it has been produced by mere disquietude; but supposing it is continuous, the patient must not yet abandon repose, and the various remedial means he has been employing.

Relapses were formerly very frequent, but M. Lisfranc has found them to be rare, since he has given his patients a padded knee-cap to wear. This limits the movements of the joint, and supports it during their performance, prevents any stagnation of the fluids, and aids the resorption of any effusion that may occur. Atrophy of the joint sometimes follows, which may be persistent, or may disappear, as the general health improves.

Many cases are quoted to demonstrate amply the author's mode of treatment, concerning which he thus remarks: "I am frequently asked by what plan I cure white-swellings; but these words offend my ear. I reply, that my method is dictated according to the various indications the cases present; and that under many circumstances, in order to obtain a cure, we are not only obliged to employ a great number of means simultaneously, but frequently to exhaust, as it were, all we possess. The disease may pass frequently from the acute to the chronic condition, and, in the majority of cases, the means which have at first produced great amendment, after a while do not continue to do so, and require to be replaced by others."

Medico-Chirurgical Review, January, 1843, *p.* 88—93.

73.—ON CANCER....By M. Lisfranc, Paris.

[This excellent surgeon has noticed, among other circumstances relating to cancer, that it seldom attacks at once all the various tissues of an organ:]

Thus, in the stomach, *e.g.* its ravages are sometimes confined to the mucous, to the cellular, or to the muscular tunic of that organ; and even when all the tissues seem equally involved, a careful dissection will usually point out which has become first affected. So, too, in the examination of the bodies of a great number of women who died of cancer of the breast in the Salpetriere, the pleura, though in contact with the disease, was found unaffected. These and other facts induced the author to inquire whether the ravages of cancer in an organ might not be curtailed, especially if its tissue formed part of any peculiar structure, fitted to isolate the malady. If so, the removal of the superficies, performed in time, might save the remainder of the organ. He first put the idea into practice in a case of cancer of the penis.

He began his operation with what he calls an exploratory incision, in order to examine whether the corpus cavernosum yet remained in a healthy condition, so as to admit of the organ being saved. Finding this to be the case, he removed the cancerous part by a "long, painful, and difficult dissection," and the patient perfectly recovered, performing afterwards his generative functions in a satisfactory manner. In the next case, the testes and cord were laid bare by a laborious dissection, the penis almost detached from the body of the pubes, and the cancer pursued to the roots of the corpus cavernosum, which, "exposed, and as if prepared for an anatomical demonstration," showed here and there signs of cancerous deposition that had to be removed by the forceps and scissors, the surface being afterwards well scraped with a bistoury. The cure was perfect, and the extent of cicatrization such as can only be imagined by those accustomed to the wonderful reparative powers of nature. Many cases, very formidable in appearance, have been similarly treated by the author. The same success has, also, often attended his operations for cancer of the tongue, the vagina, the lower extremity of the rectum, and the parts surrounding the orbit. Cancer of the *nose* almost always spares the cartilages, and by careful dissection, the ablation of the organ may be avoided. Moreover, the skin in the vicinity of the solution of continuity produced by this operation, possessing slight mobility, yields but little to the traction of the cicatrix—whence a cicatrization at a very small expense of integument results; and, by taking care to

repress exuberant granulations with the nitrate of silver, very little deformity will ensue.

That cancer is not *contagious*, M. Lisfranc is entirely convinced. He also denies that there is any *general infection of the system* in this disease. He supposes the disease arises from the development of a greater or less number of tubercles of a malignant nature, which, like ordinary tubercles, may be more especially confined to certain organs. As suppuration attacks and removes tubercles, not simultaneously, but in successive attacks, so cancer might be removed by several successive operations.

From observation upon man and experiment upon animals, M. Lisfranc believes that cancer may be produced solely by common irritating agents. Thus, ulcers, cicatrices, accidental tissues, frequently become cancerous when irritated, while instances of relapse after the removal of such, are very rare. Many persons are very liable to the formation of pimples upon the face, consisting of accidental tissue. No change usually occurs in these until old age approaches, when they either spontaneously ulcerate, or do so in consequence of the irritation of external causes. The pus is scanty in quantity, and, concreting into a thin crust, the patient takes no notice of it. But sooner or later the cancerous condition supervenes, if it have not already commenced with the first ulceration. Persons who are liable to the production of permanent pimples upon the nose, should be careful in not exciting their cancerous degeneration by a too rough use of the pocket-hankerchief. Razor wounds in such subjects often produce dangerous ulcerations. As soon as ulceration occurs, if it be not yet cancerous, apply the nitrate of silver, following its use up by mildly stimulating dressings. Even when the ulcer is cancerous, caustic is sometimes used with good effect; but the author has seen such frightful aggravation result from its employment, that he prefers at once removing the part with the bistoury. If a superficial ulceration of a cancerous aspect be seated, not on accidental tissue, but upon a normal texture, somewhat indurated, it may be touched lightly with the liquid proto-nitrate of mercury, with the intention, however, rather of changing its mode of action, than of effecting the destruction of the tissues upon which it is seated. In this way you will usually effect a cure, especially if you have premised depletion, or afterwards employ it, if any inflammatory action seem to demand it. Fissures of the lips, which, when neglected, so frequently degenerate, rarely do so if they are touched with the nitrate of silver. The same substance is also very useful in the case of a slight erosion of the cheek, covered by a thin, greyish crust. The irritation produced in the faces of old persons, by the accumulation of the matter of the sebaceous follicles, may eventually terminate in cancer.

Whatever book-doctors may think, M. Lisfranc maintains that all experienced surgeons must deny that cancer is always well characterized. In this way he explains Desault's supposed cures of cancer of the rectum, and cites cases of apparently incurable cancer yielding to means seemingly inefficient. He observes, also, that we pronounce many ill-looking sores to be cancerous, merely from the localities whereon we find them, and that we should never so consider them if seen on other parts, *e. g.* the leg. It is well known, also, that syphilis frequently simulates cancer, and the author has often, in doubtful cases, employed anti-syphilitic remedies with the best effect.

[Lisfranc places more reliance on an operation for the removal of the diseased portions than most surgeons. He operates occasionally in the *advanced stage*; and even when the neighbouring lymphatic glands are enlarged, he will not always allow them to be an impediment to the operation, trusting to their dispersion by antiphlogistic treatment: as all enlarged glands are not cancerous, or even scirrhous.]

In a case of cancer, with or without ulceration, are we to consider the *whole substance of the tumour* as being occupied by scirrhous? While Lisfranc was pursuing his experiments on the cure of cancer by local bleeding, he observed the tumours so treated underwent a notable diminution at their circumference. This induced him to make careful pathological examinations in some fatal cases; and, although in a few of these the whole tumour seemed to be completely oc-

cupied by the cancer or scirrhous, yet, in the great majority, the morbid change was confined to the centre. The scirrhous nature of the swelling gradually changed into the common inflammatory induration as the circumference was approached. From these facts he deduces some practical proceedings. Thus:—a cancer may be of too great an extent to admit of an operation, for the patient would succumb during the healing of the large wound, necessary for its removal. Leeches, proportioned to the degree of strength of the patient, must be applied around the base of the tumour, following them by a large emollient cataplasm, and enjoining a careful diet. As long as the constancy of the pain, and the augmented heat denote the continuance of sub-inflammation, these means must be repeated—the chronic nature of the affection, and the enfeebled state of the patient, however, admonishing us that their repetition must neither be too hasty nor too vigorous. In a few days we may have recourse to resolvent applications, and especially compression—yet avoiding the reproduction of inflammatory action. By such means, carefully adopted, and extended over a sufficient space of time, cancerous tumours have been frequently reduced at La Pitie from a size represented by 10, to one of 6 or 4; and not only has the opetion then become practicable, but no more than an ordinary wound has remained after its performance.

Again: a cancer may not be excessively voluminous, but it may involve such important parts as to render its removal difficult or impossible. By the means mentioned the lessening tumour retires from the vicinity of the nerves, vessels, &c., which may have presented the obstacle to the operation.

Some practitioners, observing the partial diminution of the tumour produced by these means, and ignorant of the principle upon which they have been recommended, reject the operation altogether, vainly believing that they can dissipate the cancer altogether in the same manner—thus giving time for the disease to make fatal progress.

After the operation for cancer the fingers must be carefully passed over the whole surface of the wound, by which means small tubercles, easy of removal, may be often felt—they sometimes being completely imbedded in the pectoral muscles. When very numerous they can rarely be completely extirpated, and when left they frequently give rise to the reproduction of the disease. In patients dying a few days after the operation, the author has found hundreds of these bodies, even under the scapula and clavicle, and upon the pleura.

Observation proves that cancer is liable to relapse, in proportion as its progress has been active, or it has been complicated with acute inflammation. This last is to be met by local depletion, continued for some days prior to the operation. Relapses will be less likely to occur, also, if half an inch of sound skin be included in the incision—leaving, however, enough integument, when it is sound, to procure union by the first intention, thereby diminishing the extent of irritation of the wound and subsequent cicatrix. The surgeon's care of his patient must not terminate with the production of cicatrization, but also be directed to the prevention of a relapse, which, when patients are docile enough to obey the directions given them, may usually be accomplished. They must be told, that, even when the wound has healed, the cure is only in part completed. All causes likely, whether mentally or physically, to interfere with the health must be sought for and removed.

In persons of a sanguine temperament, or when suffering from the obstruction of some flux, let bleeding be practised; and, if the parts in the vicinity of the cicatrix become congested, a revulsive bleeding of three or four ounces must be employed. The vitality of the susceptible organs must be modified by the use of powdered hemlock (the extract usually being very bad), for many months. Beginning with a grain every morning, the dose may be gradually augmented to four. Lisfranc has a very high opinion of this remedy, as a solvent and anti-nervine—and its utility is also well seen as the latter, in the gastralgiæ of women suffering from uterine affections. Occasional mild aperients, exutories, in case of retrocession, and, after omitting the hemlock, the external or internal use of iodine, are other useful means. Much good also results from compression, employed by means of agaric and a bandage, and extending be-

the day, the joint became swollen and very tender; the patient was restless and feverish during the night. But in the course of 24 or 36 hours, these symptoms abated, and then the patient experienced less pain than he did before the operation. By the sixth day he was able to rise, and five days afterwards he could walk about the ward. The right knee now began to swell and be painful, and, strange to say, as the left one became well, the other filled with fluid. On the 16th of October, twelve days only after the first operation, I performed the same manœuvre on the right, as I had done on the left joint. The inflammation that supervened this time was much more severe than on the former occasion, and indeed it was alarming. Forty leeches were applied round the joint, and then fomentations and poultices; but as the tension and pain became more and more severe towards evening, I determined to puncture the capsular ligament again; about two *centilitres* of serosity (which had no traces of iodine) flowed out through the canula. From this moment all the suffering ceased, and, in the course of two days, the joint was not larger than it had been before the operation. So rapid was the abatement of all the symptoms, that, after the lapse of another week, the man was able to leave the hospital, walking without difficulty, and quite cured of his double hydarthrosis. I have seen him repeatedly since, and find that the cure has remained permanent and complete.

(Surely the second operation was a most unwarrantable proceeding: to puncture and inject a large joint for a dropsy of a few days' standing!)

Case 2.—A young girl had been affected with dropsy of both knee-joints for three weeks, when she entered the hospital. She seldom suffered much pain in them, and she had always been able to walk, although with inconvenience. After a few days' residence in the hospital, both joints were punctured on the same day, and about 30 grammes of tincture of iodine were injected into each. The inflammatory reaction was intense; during the first night, the patient was restless, feverish, and now and then somewhat delirious; both joints were much swollen, and the integuments were hot, red, and shining. For three days the acute symptoms continued; they then subsided, and the swelling began to diminish. At this time I had to give up attendance at the hospital for several days, and when I resumed my duties, on the 8th of June (about three weeks after the performance of the operation), I found that the patient had left the hospital nearly quite recovered.

Case 3.—A woman, 27 years of age, had been affected with hydarthrosis of both knees—the consequence, apparently, of a fall from a tree—for two years, when she came under M. Bonnet's care in June, 1842. After using blisters for a few days, M. Bonnet injected into each joint some of the following solution: 1 part of iodine, 2 parts of hydriodate of potash, and 15 parts of water. The inflammation that followed was very intense, and for forty-eight hours the patient could not get a wink of sleep. On the third day the pain and swelling began to abate, and by the end of another week no fluctuation could be perceived, and neither joint was much larger than in health. In the course of a month the patient was able to leave the hospital; the swelling had almost quite disappeared, but the walking still remained difficult, although less so than before the operation.

In the fourth case, in addition to the hydarthrosis, which was the consequence of chronic rheumatism, there was a good deal of œdematous swelling of the integuments, and also "des fongosites dans la cavite synoviale." The complaint was of three months' standing. About 30 grammes of serosity were withdrawn from the joint, and as much tincture of iodine injected. The inflammatory reaction was by no means very great; not a drop of fluid oozed from the wound. As the swelling of the part did not sensibly subside, the joint was again punctured and injected, about five weeks after the first operation. This time, the inflammation excited was more severe; but the ultimate result was "une guerison presque complète."

M. Bonnet, after describing another case, goes on to state that in no instance in his practice has the iodine injection caused suppuration of the joint or any other severe accident; the inflammatory action, although sometimes very considerable, almost always subsided in two or three days. There is every reason

therefore to believe that many cases of simple hydarthrosis may be most successfully treated in the manner now described.—*Bulletin de Therapeutique.*

Medico Chirurgical Review, April, 1843, *p.* 513.

76.—ON THE LOCAL TREATMENT OF CHANCRES....By Dr. Strohl.

The more rapidly primary syphilis is cured, the less likely are secondary symptoms to appear. The first object is most easily attained by cauterizing. Sometimes, however, this method is inapplicable, for instance, when the sore is very extensive, or much inflamed. In such cases, the author employs the sulphate of copper. The sores are dressed five or six times a day with charpie, which has been soaked in a solution of about a grain and a half of sulphate of copper to an ounce of water. Simple chancres, when thus treated, usually heal within twelve days. Dr. Strohl assures us, that he cures complicated chancres in an equally short time, with an ointment, composed of two grains of cyanuret of mercury to an ounce of axunge. This ointment is spread upon a piece of linen corresponding to the size of the sore. This dressing is apt to be painful at first, and it must occasionally be taken off, after it has been on for an hour or two, and the remedy must be applied in a weaker form. The pain is said to be most violent in half an hour or an hour, and frequently ceases entirely in two or three hours. When the chancre is extensive and painful, after the ointment has been on from four to ten hours, according to the sensibility of the patient, it is dressed with mercurial ointment, or opium cerate.

If the edges of the chancre have flattened, if the centre is cleaner, the pain less, and the suppuration healthy (which may occur after the first application of the cyanuret of mercury, but, at any rate, not later than the fourth), the treatment with the sulphate of copper is finished. *Medical Gazette, Nov.* 11, 1843.

77.—USE OF NITRATE OF SILVER TO PREVENT BED-SORES.

By Henry Jackson, Esq., Sheffield.

[In a paper read before the Sheffield Medical Society, Mr. Jackson made some very useful remarks on the prevention of those sores which result from long continued pressure on certain parts.]

One case occurred from long confinement to bed, in which all the known remedies had been tried without avail—the lotio de Haen (white of egg, and spirit of wine or brandy), plasters of different kinds, removal of pressure by means of pillows—all of which only answered for a time. In the course of conversation with Dr. Thompson, the nitrate of silver was suggested, and was found to answer perfectly.

Another case occurred in a stout woman, who was seized with paralysis. This was made more formidable by the constant dribbling of urine, and when attention was called to it, a very large slough was found to exist over the sacrum, with very extensive inflammation surrounding. The nitrate of silver was applied, and the inflammation was almost immediately subdued, and the ulcer very speedily healed. The excoriation of the thighs, from the dribbling of urine, was also remedied. This occurred six years ago, and the patient, who is still living, has never experienced any of the annoyance resulting from either this or the almost constant pressure, by making occasional use of the remedy.

He mentioned several other cases, one of phthisis, in which the same beneficial results had been experienced. The form which he uses is in the proportion of ten grains of the nitrate of silver to one ounce of water, applied by means of a camel's-hair brush over every part exhibiting the slightest appearance of inflammation, two or three times a day, until the skin has become blackened; afterwards only occasionally. He then mentioned its great utility in the treatment of burns and scalds, in which he had found great benefit resulting from its application, and instanced several cases of superficial burns in children, in which he found that in a very short time after its application the pain ceased, and vesication was totally prevented. In the deeper burns he uses it, not that he finds that it can produce any effect upon the charred parts, but that, as Mr. Higginbottom has said, he finds the superficial burn healed, and the extent consequently circumscribed. *Prov. Med. Journal, Dec.* 31, 1842, *p.* 277.

78.—ON OUTWARD APPLICATIONS TO ULCERS....By W. H. O. Sankey.

On examining the composition of the more common medicinal applications to indolent ulcers, it would appear that, 1st, their energy on the animal tissue, and their caustic properties, are in direct ratio to the rapidity with which they part with their oxygen; and 2d, the bases of those compounds which experience has taught us to prefer, are, when deprived of their oxygen, perfectly inert, and their affinity for oxygen is comparatively slight. Three qualifications, therefore, appear necessary to constitute a good outward application to an indolent ulcer. 1st. A substance containing a large proportion of oxygen, or of an electro-negative body. 2d. A compound that will part with its oxygen to the animal organism moderately slow. 3d. A compound whose elements, when its oxygen is abstracted, possesses no chemical or solvent powers on the tissues, nor poisonous effects on the body generally.

Guided by these views, Mr. Sankey is led to recommend the employment of various compounds to indolent ulcers, such as the iodate of the protoxide of mercury in the strength of ℈ss. to ʒss. to the ounce of lard; the iodide of starch; the oxide of silver; pectic acid applied as a poultice; the iodate of peroxide of mercury; the preparations of periodic acid, the bromates; succonates; the precipitate formed by tr. opii on Goulard water; mucic acid; alloxan; hydrated peroxide of iron, &c. In angry and inflammatory ulcers, on the other hand, which are attended with increase of circulation, and consequently, with excessive supply of oxygen, the oxygenated compounds would be prejudicial. Cold lotions or poultices, for chemical reasons, would be indicated; or, if ointments are used, those only containing a preponderance of electro-positive elements, as ung. cetacei, creosote, &c.; perhaps, also, the application of turpentine, or the non-oxygenated essential oils, as the ol. limon.

Medico-Chirurgical Review, April, 1843, *p.* 564.

79.—ERECTILE TUMOUR CURED BY VACCINATION.

A child thirteen months old (not vaccinated), had a small erectile tumour over the left eyebrow. M. Pigeaux inserted nine points of vaccine matter over its whole surface. The vaccine eruption was confluent to the tumour, but followed its usual course; on the 25th day the scabs fell off, and nine tenths of the tumour had disappeared. The surface of the tumour was now powdered with alum, and the scab was removed every four or five days, to permit a fresh application of the powder. At the end of three weeks the whole of the erectile tissue was destroyed; the bottom of the wound threw up healthy granulations, and in seven weeks it was completely healed. For the success of an operation of this kind, it is necessary that the points of insertion be sufficiently numerous to produce a confluent pock; and should any portion of erectile tissue remain after the removal of the scabs, it must be destroyed by some caustic like the powdered alum.

Provincial Medical Journal, April 22, 1843, *p.* 79.

80.—NEW CAUSTIC.

M. Payan, senior surgeon to the Hotel-Dieu, of Aix, speaks favourably of a new caustic paste, made of sulphate of copper. A sufficient quantity of the sulphate, reduced to powder, is mixed up with the yolk of an egg, so as to form a soft paste of a deep green colour. It is applied on a piece of lint, and when removed does not leave behind it the loss of substance, or unsightly scars, which commonly follow the use of other escharotics. In illustration of the efficacy of this remedy, M. Payan relates the case of a soldier, affected with malignant pustule of the cheek. A circular piece of dyachylon was placed on the cheek, and a hole, about the size of a two-shilling piece, cut in its centre; through this the caustic was applied on a bit of lint. For five or six hours the patient experienced some degree of pain, but this was not very severe, and subsided; the caustic was removed at the expiration of ten hours, when the surface of the pustule presented a blackish grey colour; the adjacent parts were somewhat swollen and red. The local inflammation being thus modified, the eschar was allowed to come away of itself, and at the end of three weeks the wound was completely cicatrized, with scarcely any mark, save a very slight depression in the centre.

M. Payan concludes that this caustic might be advantageously employed in certain cases of lupus; but it does not appear that he speaks from actual experience of its efficacy in this disease. *Bul. de Theraputique, Dec.* 1842.

81.—ARTIFICIAL FORMATION OF A NEW URETHRA.

M. Ricord presented lately to the Academy of Medicine a patient on whom he had performed the above operation, in consequence of the urethral canal having been completely destroyed by a phlegmatic chancre, throughout the whole extent of its spongy region. The greater part of the skin of the penis had also been destroyed, and two-thirds of the circumference of the corpora cavernosa, as well as the longitudinal groove marking the course of the urethra, were covered with a thin tissue of cicatrix. The urine escaped below from an opening situated in a deep fold of the skin of the scrotum. To remedy this condition, M. Ricord suggested the formation of a new canal between the corpora cavernosa and the cicatrized tissue surrounding them. For this purpose, he employed a trocar-shaped instrument, somewhat flattened, and terminating in a lancet point. The instrument was first introduced by the meatus urinarius, and towards the middle of the glandular region its point penetrated into the cellular tissue surrounding the corpora cavernosa. In this progress, M. Ricord divided the external fold, until meeting with the gorget previously introduced into the opening through which the urine escaped. The artificial canal thus commencing at the centre of the glandular region, was made to rejoin the portion of the urethra corresponding to the scrotum, at the distance of one *centimeter* and a half beyond its external opening. After this operation, which gave no great pain to the patient, a silver canula was introduced in the place of the perforating instrument, and two hours afterwards the urine escaped freely by this new passage. Compresses dipped in cold water were the only dressings applied to the wound. Very little swelling or inflammatory action occurred. The canula was replaced on the fifth day by a gum-elastic catheter, and since the 27th January, the day of the operation, the size of the catheters has been gradually increased, so as to give this new canal a suitable diameter. *Medical Times, March* 25, 1843, *p.* 420.

82.—AN ELEGANT STICKING PLASTER.

Black silk is strained and brushed over ten or twelve times with the following preparation:—Dissolve ℥ss. of Benzoin in f℥vi of rectified spirit; in a separate vessel dissolve ℥j. of isinglass in water; strain each solution, mix them, and let the mixture rest, so that the grosser parts may subside; when the clear liquor is cold, it will form a jelly, which must be warmed before it is applied to the silk. When the plaster is quite dry, in order to prevent its cracking, it is finished off with a solution of terebinth. chia. ℥iv. in tinct. benzoes f℥vj.

Ibid., April 15, 1843, *p.* 44.

83.—INDIA RUBBER COURT PLASTER....By B. C. Rowland, Esq. Liverpool.

The Pharmaceutical Journal, No. IV., 1st Vol., contains an article detailing the manner of making Mr. Liston's isinglass plaster, spread either upon silk or membrane. I am induced to lay before the public, in furtherance of the same subject, the best method of making India-rubber court-plaster, *which does not wash off;* thinking, as it has become an article now in general use, that the mode of its preparation may interest the practitioner. A stout frame of wood must be made about three yards long (or any length that would be most convenient), and about one yard and a quarter wide. Within this frame must be placed two sides of another frame, running longitudinally and across, so fixed in the outer frame that the two pieces may slide, independently of each other, backward and forward about six inches. Tapes of canvass must be tacked round the inside of the inner frame, and the corresponding sides of the outer frame, so as to form a square for the material to be sewed in; which when done, the two loose frames must be drawn tightly to the outer, by means of a twine passed round each, in order to stretch, perfectly free from irregularities, the silk or satin previous to laying on the composition.

To make India-rubber Plaster:—Dissolve India-rubber in naphtha, or naph

tha and turpentine, and lay it on with a brush, on the opposite side to that which is intended for the plaster, and when perfectly dry, and the smell in a great measure dissipated, it will be ready for the adhesive material; to make which, take equal parts of Salisbury glue, or fine Russian glue, and the best isinglass, dissolved in a sufficient quantity of water over a water-bath, and laid on with a "flat hog-tool" while warm. It is requisite to use great caution in spreading the plaster evenly, and in one direction, and a sufficient number of coatings must be given to form a smooth surface, through which the texture of the fabric is not perceptible. Each coating should be perfectly dry before the succeeding one is given, and placed in a situation free from dust, and where a draught of air would facilitate the drying. The quantity of water used, and the weight of the two materials, must be a little varied according to the season, and the gelatine strength they possess.

Lastly, the plaster being ready to receive the polishing coat, which gives also the balsamic effect to it—a preparation is made in nearly the same manner as the tinctura benzoini composita of the Pharmacopœia, with the addition of more gums; this preparation must be laid on at once only, and with a brush kept for the purpose. For making plasters on coloured silk, it is only necessary to select the silk a shade deeper than the colour required, as the plaster causes it to appear a little lighter. The process being finished, the plaster must be cut out of the frame with a pair of scissors, as near to the canvass to which it is sewed as it will admit. For sale, it is cut up in squares, which is best done by means of a compass and rule. I have tried various solvents for India-rubber, and find none answer so well as those above mentioned. Ether dissolves it with facility, and possesses the advantage of cleanliness, but it is much more expensive, and evaporates so rapidly that it is almost impossible to spread the solution smoothly on the silk; naphtha evaporates more slowly, and is, therefore, preferable, but the quality requires attention, as it may be obtained almost free from that creosote smell which is the only objection to its use. The addition of a small quantity of turpentine facilitates the solution of some specimens of India-rubber. The white India-rubber is better than that which has assumed a black colour by exposure to the air. I have tried various adhesive materials, but find the one I have mentioned to be the best. The grand arcanum in making court-plaster is *glue* and *isinglass*. The polishing coat is not absolutely necessary, but it improves the appearance of the plaster, and the gums may probably increase its healing property, and by giving it a more even surface, cause it to adhere more closely. It has occurred to me, that a similar plaster might be made for common use, with calico instead of silk, which might, in some cases, supersede the use of strapping; and also that the adhesive material might be made the vehicle for cantharadine or other stimulants. The isinglass plaster is apt to crack in warm dry weather, but this does not occur if it is kept in a cellar in an earthenware jar. *Pharmaceutical Jour., Jan.* 1843, *p.* 464.

84.—OPIATES IN HERNIA.....By JAMES ROSS, M. D.

[We have several times alluded to the efficacy of opium and morphia in the reduction of strangulated hernia. The following case exemplifies the practice.]

A gentlemen, aged 60 years, of a healthy constitution, has been afflicted with a hernia on the right side upwards of fifteen years. By wearing a good truss constantly, he has hitherto prevented the descent of the intestine into the scrotum, except once, about half a year ago. He is naturally of a costive habit, and subject to flatulent colic when this distemper attacks him. It occasions a considerable distemper of the abdomen, and obliges him to lay aside the elastic bandage. A tumour is immediately formed, about the size of a small hen's egg, by the protrusion of the intestine, and part of the omentum, through the ring of the abdominal muscles. A most acute pungent pain is felt in the tumour, which pain extends itself over the whole abdomen; the legs and feet become very cold; the pulse, naturally slow, rises to about 90 in the minute. He feels, however, no thirst, nor any sickness at stomach. Warm flannel applied to the feet and legs give some relief.

Formerly I was very anxious to procure him some alvine evacuation, either

by means of clysters, or purgatives thrown into the stomach, being afraid to give opium freely until he had had a stool. By this mode of treatment, he was kept in great torment during 12 or 14 hours. Once or twice the costiveness resisted all medicines, and the distemper ceased without any alvine discharge—a circumstance which I carefully noticed, and which led me to adopt a different plan. At the next attack of his disease, without regard to the costiveness, I gave him the following draught:—℞. Tinct. Opii gtt. lx. in Aq. Cinnam. ℥i. This medicine was thrice repeated, with the interval of an hour betwixt each dose; after the third he fell asleep, the hard tumour disappeared, and he awoke next morning in perfect health. He has been relieved in this manner above thirty times, and suffers now very little from his distemper, which was formerly very dreadful to him.

I generally gave an aloetic pill, or some laxative medicine, along with the first dose of the laudanum, to prevent the costiveness which it always occasions. This case naturally suggests the very free use of opium, not only in flatulent colic, which is already well established, but even in the strangulated hernia, provided it do not occasion sickness at stomach, which my patient never had from the use of it. If he, a little thin man, far advanced in life, could bear 180 drops of laudanum, pray what is the proper dose for the robust and athletic? Do we not often trifle in the exhibition of this most excellent medicine?

London and Edin. Monthly Jour. of Med. Science, Jan. 1843, *p.* 71.

85.—CONCRETE NAPHTHALINE IN PSORIASIS.....By Dr. Emery.

Dr. Emery of the Hospital St. Louis had his attention turned to the investigation of the different products of tar as remedial agents in the treatment of skin diseases, on account of the successful results he obtained from the use of tar, and because of the unpleasant odour it gave forth. Various preparations were had recourse to, the most valuable of which proved to be the concrete naphthaline, which Dr. Emery tried in fourteen cases. In two cases, one of psoriasis gyrata, and the other lepra vulgaris, it failed in effecting any good; in the remaining twelve it proved more serviceable. Eight of these were men, and four women. In two of the cases, lepra vulgaris of from fifteen months to two years' duration, arsenical and iodic preparations had been previously tried; in the younger patient the arsenic at first seemed to do good, but the improvement soon ceased. An ointment prepared with two scruples of concrete naphthaline to thirty of lard was applied, causing the scales to fall off, leaving the skin of a violet colour, with white circles around. A perfect cure was effected in six weeks, and although three months have passed since, there has not been any relapse. In four other cases the men were labouring under inveterate psoriasis; in one of them it had existed sixteen years, and had resisted arsenical, iodic, and mercurial treatment. The tar ointment was had recourse to, and with decided advantage, but the man becoming inpatient on account of his business, an ointment of naphthaline, twice the strength of that used in the preceding cases, was spread on compresses, and applied over the diseased parts night and morning. The man was cured in six weeks. When the ointment was applied too strong, it caused a burning heat, which was soon removed by emollient baths and poultices. The other six cases were also instances of psoriasis cured by the naphthaline ointment. Dr. Emery states that this remedy has an unpleasant odour, which passes off, and it is apt to irritate the skin and cause erysipelas, if it be not carefully watched. *Ibid., Jan.* 1843, *p.* 68.

86.—FOREIGN BODY REMOVED from the BRONCHUS by TRACHEOTOMY.

A man, 24 years of age, having eaten some cherries, one of the stones found its way into the trachea. Next day, when seen by his medical adviser, the patient, though he had but little pain or cough, experienced, with much difficulty of breathing, a perceptible sensation of something rising in the chest at each access of cough or full expiration. The surgeon decided on performing tracheotomy, and trusting afterwards to the efforts of the cough to get rid of the stone. An incision was made dividing three of the tracheal rings. The practitioner introduced his finger into the trachea, which caused a fit of coughing

and the patient felt the stone move and rise in the chest. The introduction of the finger was twice repeated; and on the third occasion it was not withdrawn until it had provoked a cough of much violence, which, on the hasty withdrawal of the finger, expelled the stone through the opening. The wound healed in a fortnight. *Lancet, Feb.* 25, *p.* 808.

87.—EFFUSION WITHIN THE JOINTS, Treated with NITRATE OF SILVER.

Dr. Moritz, of Coblentz, applies the argentum nitratum over the joints affected, in two different modes, either drawing the substance across the moistened surface, at intervals of about a quarter of an inch apart, or laying on, with a pencil-brush, a solution of the strength of one part of the nitrate to eight or ten of distilled water. In either case the epidermis of the skin so touched rises in blisters, containing a lymphatic fluid; this is soon dissipated, and after the scaling off of the dried crust the joint is seen to be obviously diminished in size. This treatment is repeated till the joint is reduced to its natural proportion, or as long as may be deemed proper. M. Moritz affirms that the operation is effected with little pain or irritation of the part affected, and that in more than twenty cases he has obtained in a very short time the most complete cure of effusions of the most obstinate nature, and which had resisted all previous methods of treatment. He says, moreover, that the employment of the nitrate is applicable whatever may have originated the effusion, whether rheumatism, scrofula, gout, wounds of the joints, or any other probable cause.—*Medic. Zeitung.* *Lancet, Dec.* 3, 1842, *p.* 341.

88.—SMALL NÆVI IN CHILDREN, WITH ACETUM PLUMBI. By Dr. Sigmund.

The author informs us that after the employment of a variety of remedies he finds the acetum lithargyri the most powerful in causing to shrink and disappear those vascular growths in children, when the growth does not exceed the size of a hazel nut. This disease attacks the face chiefly; the upper lip more particularly: an operation for its removal is apt to cause great disfigurement; and the method of acupuncture recommended by Lallemand, and compression, seldom prove successful. For small, nonpulsating tumours of this description, the acetum lithargyri, used as a cold fomentation, or applied in small compresses, renewed twice a day, will be found highly useful. It causes a separation of the epidermis, which cracks and falls off; and the newly exposed surface is to be treated as the layer just removed. In four weeks, by this method, the author has succeeded in removing small nævi.

British and Foreign Medical Review, Jan. 1843, *p.* 239.

89.—POPLITEAL ANEURISM CURED BY COMPRESSION.

[Three cases of this description have lately been treated successfully by compression, one by Dr. Hutton, one by Dr. Cusack, and another by Dr. Bellingham;—so that "it would appear that this plan of treatment has been too hastily abandoned by the profession, probably from the compression employed being so excessive as to render it quite insupportable to the patient. The least possible pressure which may be sufficient to close the vessel should be used, and when this cannot be sustained, it will prove of use to partially compress the artery, so as to lessen the impulse of the circulation." The case of Dr. Hutton's is as follows:]

Michael Duncan, æt. 30, a labourer of rather healthy appearance, but of intemperate habits, was admitted into the Richmond Hospital on the 3rd of October, 1842. He stated, that ten days previously, while suffering from cramp in the right leg, to which he had been subject for the last year, he, for the first time, discovered a tumour in his right ham, which was then equal in size to a hen's egg; in three days afterwards he observed some swelling in the foot and ankle, and felt pain along the outside of the leg. At the time of his admission into hospital the tumour had somewhat increased in size, and was found to occupy the lower part of the popliteal space. It pulsated strongly, and when the femoral artery was compressed in the groin the tumour admitted of considerable collapse. The compression being removed, it again became distended, and

the "purring thrill" attended the re-entrance of the blood into the aneurismal sac. The leg was somewhat swollen and its veins turgid, and he complained of prickling sensations in the limb. His pulse was 60 and regular, and his general health appeared to be unaffected. The nature of his case was explained to him and the operation of tying the femoral artery proposed. To this he declined to submit in the first instance, and expressed a desire that other means might be tried. For three or four weeks he maintained the horizontal posture, and a compress and bandage were applied; but as the tumour gradually increased in size, and as he suffered pain from the pressure, this treatment was discontinued.

November 1st. The patient being still reluctant to undergo the operation, I resolved to try compression of the femoral artery, and I entertained some hope of success from being informed by Mr. Adams that the late Mr. Todd had succeeded in a similar case, of which no account has been published. Having at hand an instrument constructed for the suppression of secondary hæmorrhage after ligature of the femoral artery, I applied it in this case. It was so contrived as to admit of pressure being made by a screw and pad upon the course of the femoral artery, and the counter-pressure upon the opposite surface of the limb without interfering with the collateral circulation. In the first instance the compression was made upon the femoral artery in the middle third of the thigh, and although it was effectual in compressing this vessel it produced so much uneasiness that it could not be sustained, and after a few applications the apparatus was removed and adapted to the upper part of the limb. 12th. The femoral artery was compressed as it passes from the pelvis under Poupart's ligament, and the pressure maintained for more than four hours. 14th. The tumour feels rather more solid; the purring thrill before felt on the re-entrance of the blood into the sac is no longer sensible; the pulsation as before.

[The compression was employed according to the feelings of the patient and then relaxed. On the 22nd it was continued three hours—on the 24th six hours—on the 26th four hours; and so on till December 1st, when]

An artery, about the size of the temporal, was felt pulsating along the surface of the tumour, which was quite solid, much diminished in size, and altogether free from pulsation. The use of the instrument was now discontinued. The femoral artery pulsates naturally. On the 27th of December the tumour was reduced to the size of a small walnut, and felt very hard. He was this day discharged, at his own request. In six weeks he visited the Hospital, at my request. The tumour was about the size of a nutmeg, and solid. He had been at his usual employment.

[In Dr. Cusack's case there was "a tumour in the lower angle of the left ham in the course of the popliteal artery, about the size of a hen's egg; it was elastic and pulsated synchronously with, but more powerfully than the heart; the pulsations were as evident latterly as on the superficial surface; moderate pressure on the femoral artery stops them, and empties the tumour, so that it can scarcely be felt; the skin is not discoloured, nor is the tumour tender on pressure, except on a point on each side, the size of the top of the finger; it is smooth and even on the surface, and a distinct *bruit* can be heard when the ear is applied to it; the anterior and posterior tibial arteries cannot be felt in either feet; what vessels can be felt, appear to be large and to have thin coats; no morbid sound can be detected in the heart, but its impulse is weak, and the pulsations very intermittent and irregular."]

Feb. 22nd. Mr. Hutton came to-day, and applied his instrument; the pad being screwed down on the femoral artery at as high a point as possible, and with force sufficient to stop completely the pulsations in the tumour; a compress was then laid over the aneurism, and secured by a flannel bandage, beginning at the toes; he soon began to feel uneasy, but when it had been on for one hour and a half, his face became pale, his pulse weak and slow, and he complained of faintness, with a feeling of weight in the situation of the pad, running up to his heart, and the sensation of a rush of blood to the head, accompanied by profuse perspiration on the forehead and vertex; the instrument was

now loosened, and he soon rallied; when quite recovered, the pad was again screwed down, but he could not bear it for more than half an hour at a time. (Cont. tinct. digitalis gtts. x. t. d.)

24th. He bears the instrument as long as he can, and then loosens it, screwing it down as soon as he is free from pain; he complains most of the rush to his head; the pad slips off the artery very easily; he says he can tell by a peculiar sensation of something running up from the situation of the pad, when the pulsations in the tumour are stopped, but he often gives an erroneous opinion; to-day the instrument was put on loosely, so as only to lessen the force of the pulsations. (Sont. tinct. digitalis gtts. x. t. d.)

27th. He has been very patient and quiet, but no effect has been produced on the aneurism. Mr. Hutton's instrument was left off, and a bandage applied. Temperature of both legs same throughout. (Cont. tinct. digitalis gtts. x. t. d.)

March 4th. Same as at last report. (Tinct. digitalis gtts. xv. ter die.)

16th. Sir P. Crampton's instrument, modified by Mr. Daly, was put on, so as merely to lessen the impulse in the aneurism; no compress or bandage was put on the tumour. Pulse 63, very intermittent; it soon rose to 90. (Cont. tinct. digitalis, gtts. xv. ter die.)

18th. He bears this instrument much better than the other; has none of that unpleasant rush to the head; complains chiefly of soreness produced by the pressure of the pad; this is relieved by dusting the part with flour. No change in the tumour. (Omitte tinct. digitalis.)

22nd. The tumour is decidedly harder and smaller, the impulse being greatly lessened; at times there is only a thrill in the aneurism; sometimes there is no motion whatever in the tumour, even when the pressure is removed, but it returns on the slightest movement of the body; he observes that the two spots before mentioned have lost all tenderness on pressure. Complains of cough. Pulse 67, very irregular. (Mist. expect. c. tinct. opii camph.)

23rd. Pulsation has totally ceased; the tumour is very hard, and about the size of a large walnut; a large artery can be felt running down superficial to the aneurism, over which it can be easily rolled with the finger; it then divides into two branches; the articular vessels do not appear to be enlarged. On the 19th he had some œdema of the leg, for which a bandage was put on the limb; for the last two nights he has had a most intolerable itching in the thigh, but there is no redness or mark of any kind.

25th. Instrument was removed to-day. The femoral artery can be distinctly traced as far as the opening in the tendons of the triceps and vastus int. (Mist. expect. c. Aq. lauro cerasi.)

April 1st. The tumour is decreasing; the enlarged artery above-mentioned is much smaller than at last report; the relative temperature of the limbs, as ascertained by thermometer, has not varied.

7th. Tumour continues to decrease; the entire artery can be traced until it enters the aneurism, but in the lower third of the thigh and in the ham, the pulsation is so weak that it can only be felt on a careful examination. (Cont. mist. expect.)

14th. Tumour can now be grasped with facility; the enlarged artery has become very small, while the popliteal of the affected limb now pulsates as strongly as that of the sound one; a number of hard cords can be felt passing over the tumour. The palpitations of the heart still continue. Pulse 68, intermittent.

Dublin Journal of Medical Science, May, 1843, p. 364.

MIDWIFERY.

90.—RUPTURE OF THE WOMB SUCCESSFULLY TREATED.

By Dr. Mitchell, Lecturer on Midwifery, Dublin.

[Although rupture of the womb is one of the most fatal accidents that can take place, there are several instances on record where recovery took place, and even where impregnation and parturition at the full period have been accomplished. The following is a very interesting case, and shows the efficacy of treatment in assisting nature in her remedial powers. The woman was 38 years of age, and the mother of six children.]

On examination per vaginum, the os uteri was found dilated as large as a penny piece; head presenting; the pains recurring about every ten minutes. She was left in charge of the pupil on duty. The labour pains continued brisk and frequent up to 3 o'clock, A.M., of the 19th, when I was called up to her, as she was very restless and uneasy. I now found the os uteri as much dilated as the circumference of a teacup, the face towards the pubis; the pains effectual and frequent. I again left her, and did not see her again until 7 o'clock, A.M., when I was summoned to her in consequence of the pupil being alarmed at the great prostration of strength which had ensued. There was now considerable irritability of stomach, and vomiting of bile, mixed with mucous; pulse scarcely perceptible at the wrist; coldness of extremities, and most peculiarly glassy and sunken appearance of the eyes. I ordered her immediately a tumbler of hot, strong punch, to be given in divided doses, and, in consultation with Dr. Beatty, at once determined on extracting the child. On attempting to extract with the forceps the head receded, so that it was thought advisable to use the perforator, which was done in the manner recommended by Dr. M'Keever. The head was afterwards extracted without much difficulty with the crotchet, the uterus acting in the expulsion of the shoulders and body. The placenta was extracted immediately, and a rent perceived at the junction of the anterior part of the cervix with the os uteri. The uterus contracted firmly, and no intestine whatever escaped through the fissure.

[Dr. M'Keever's method of using the perforator is "to apply it not at the most dependent part of the presentation, but to one side, so as to press the part, as it were, against the pelvis of the mother, and thus prevent the recession of the child through the rent." Immediately after the operation, a grain of solid opium was given, and repeated every hour: this was followed in about five or six hours with an opium injection containing fifty drops of laudanum. In seven hours the temperature had increased, and the pulse rose to 96. Throughout the case opium seems to have been chiefly depended upon; no depletion whatever was resorted to, and even during the large doses of opium which were given throughout, a diarrhœa existed.]

It may be said that, from the commencement opium was the sole remedy relied on; it was administered at the suggestion of my friend Dr. Beatty, who had previously witnessed the good effects of this remedy in a case of rupture of the uterus, occurring likewise in the anterior wall of the cervix uteri. In this case, Dr. Beatty was called to see the patient after the accident had occurred, it having been produced by the awkward and ineffectual attempt to turn. He states, that he found the woman in an extreme state of collapse, with an almost imperceptible pulse, the surface cold, and covered with a clammy moisture. Some restoratives were given, and the child was turned and extracted. He was induced to try large doses of opium from having witnessed its good effects in cases of sudden bursts of the cavity of the peritoneum, a plan of treatment first brought before the profession by Drs. Graves and Stokes, in their Clinical Report of the Meath Hospital, published in the fifth volume of the Dublin Hospital Reports. It is, I think, an interesting question to decide, in what way opium acts in these cases of rupture of the uterus? It is well known that this drug exerts a power

ful action in allaying or diminishing muscular contraction, and is thus supposed to be of use in cases of rupture of the intestines; at least this is the view taken of it by Dr. Hart, who, at p. 306 of the fifth volume of the Dublin Hospital Reports, after speaking of the impropriety of giving purgatives, as by their action they would tend to increase the peristaltic motion of the intestines, and thus produce a greater effusion of the intestinal contents, says, "instead of purgatives, then, it would appear more proper to give large doses of opium, with a view of suspending the peristaltic motion; could this be accomplished, and the inflammation moderated, by bleeding general and local, and counter-irritants, sufficient time might be gained for the formation of adhesions around the wound in the intestine, &c." In the case just related, it is a fact worthy of remark, that although the uterus contracted firmly immediately after the extraction of the child, yet that as soon as the opium had been taken in sufficiently numerous doses, it became relaxed, so much so, indeed, as to appear as large as when impregnated, and this dilated condition it did not lose till the tenth day, evidently, in my mind, proving that the opium acts in a similar manner in both accidents. Another remarkable similarity produced by this medicine in the two accidents, rupture of the uterus and rupture of the intestine, is, that in both it appears to lose its narcotic and astringent properties, as evidently proved by the case of a man admitted in the Meath Hospital (and alluded to in the above named Report by Drs. Graves and Stokes), labouring under symptoms of peritonitis, from ulcerative perforation of the intestine, to whom 105 grains of opium, exclusive of that in the injections, were administered, without the patient experiencing the slightest coma, headache, or delirium; a diarrhœa likewise setting in severely for three or four days, agreeing most particularly with the effects produced in the case just related. *Dublin Journal of Medical Science, Jan.* 1843, *p.* 339.

91.—EXTRAORDINARY CASE OF TWINS.....By William Jameson, M.D.

On the evening of the 3d of April last, I was called to Fitzwilliam Place, to see Mrs. R., a lady about thirty years of age, the mother of four living children, in consequence of severe pains experienced through the abdomen, which recurred at uncertain intervals, lasting generally about five minutes at a time. These pains commenced in the morning after breakfast, but in consequence of their becoming more severe, and dreading inflammation, she sent for me. When I arrived she was in bed, her pulse a little accelerated, tongue clean, no tenderness discoverable on pressure in any part of the abdomen, which felt full, but being seized, during the examination, with a pain, I then distinctly discovered a firm, hard tumour, that reached as high as the umbilicus, but became softer on the subsidence of the pain, and which appeared to me to be a gravid uterus. On applying the stethoscope over the tumour, after some difficulty I thought I heard a placental murmur in the right iliac fossa, but no fœtal heart anywhere, and suggested the possibility of her being with child, and then in labour. This, however, she considered to be impossible, as she had been confined so recently (seven weeks) of a child she was then nursing. A vaginal examination was refused; I found, however, on inquiry, that she had had a slight red discharge from the vagina during the latter part of the day, which she considered menstrual. As I was convinced that the tumour was the uterus, and that it was acting to get rid of something or other, I ordered an oil draught, and quitted the apartment in order to explain to her husband my views of the case, viz., that there was some foreign body in the womb, which, in all probability, would soon be expelled. While we were thus conversing on the subject, I was hurriedly summoned to my patient, who told me that there was something coming from her. On making the examination during the pain, I found the head of a small child presenting with the membranes complete, and on the recurrence of another pain, the child, membranes, and placenta, were expelled altogether. I immediately opened the bag, containing very little liquor amnii, and found in it a dead male child, at about the sixth month of gestation, shrivelled and dark, but not at all putrid or decomposed, between eight and nine inches long. The cord was small, easily giving way under the fingers; but the placenta appeared to be fully as large as one belonging to a full-grown fœtus, and healthy. Indeed, I have often

met a smaller one at the full period. The uterus now contracted well. I placed a binder round the abdomen, administered an opiate, and never saw a more astonished female.

The account I received was as follows. It appeared that she had had four previous confinements without any untoward circumstances, each labour being generally completed in a few hours; that the youngest of them was a boy then only seven weeks old, having been born on the 13th February last, which she was nursing; that she had been attended by a midwife at her residence in the county of Wicklow (her usual medical attendant being out of the way when sent for); that on that occasion her labour went on much the same as usual, having been completed in four hours; that the after-birth was thrown off about ten minutes after the birth of the child, without any subsequent hæmorrhage; and that she recovered and was able to go about her domestic arrangements as soon as on former occasions; but she remarked that her size had not much decreased, which she imputed to bad swathing of the abdomen; that her general health was good; had as much milk as usual, and the only thing that annoyed her was her size, which she considered a natural consequence of her situation, as she always got fat while nursing; that the last time she menstruated, was in the latter end of the month of April 1841, and as she had been confined on the 13th February last, forty-two weeks must consequently have elapsed between the last period of menstruation and the birth of the child.

The above case I consider as one of great interest, whether viewed, in the first place, as regards the size of the child, it being as large as a child at the sixth month; the circumstance of its having been carried forty-nine weeks (within three weeks of twelve months) after the last act of menstruation, and remaining for such a length of time after its growth was arrested in utero without becoming decomposed; the labour pains ceasing after the birth of the first, and no inconvenience arising from, or suspicion of any thing remaining in the uterus after that accouchement. All these points, I say, are of great interest. Secondly, to view it as a case of superfœtation, or as one of common twins, in which the first was expelled under ordinary circumstances at the full period; then all labour pains having ceased, and an ignorant woman being in attendance, who did not know whether a second child remained behind or not, from the feel of the abdomen, while a second did not only exist, but was carried for seven weeks afterwards without any suspicion of its existence. I am fully aware that many practitioners have met cases (and a similar one occurred to myself) of abortion having taken place in twins, where one ovum was expelled, and that notwithstanding, the female has gone on progressively increasing in size, and in a few months, as the case might be, brought forth a living child at the full period. There are other instances again of twin cases, in which one child has gone on to the full period, and been born healthy, and full grown, while its companion in utero has been blighted at a very early period (a beautiful preparation illustrative of which we have preserved in the Coombe Hospital Museum,) and been expelled at the same labour, giving rise to the idea of superfœtation, or of a woman having conceived again while she was pregnant, from the circumstance of the child not being putrid, some erroneously imagining that a dead child cannot be carried for any great length of time without being found in that state. But I am not aware of any instance in which a woman was pregnant of twins (evidently the case here), where, at the full period, labour set in, and went on healthily, expelling one child alive, while another, dead, was retained, and held in the womb for seven weeks afterwards. The retention of the placenta is also a matter deserving of attention; why was there not hæmorrhage after the birth of the living child, inasmuch as the presence of the unexpelled contents prevented uterine contraction to have gone on sufficiently for that purpose? The only answer I should give to this is, that the ovum remaining in the womb, and of a sufficient size, must have pressed against the surface to which the other placenta was attached, and in that way have saved the patient.

Lond. and Edin. Monthly Journal of Med. Science, Dec., 1842, *p.* 1072.

[The following case also occurs in the Lancet, Jan. 14, 1843, by Mr. Vale, of Birkenhead:]

Martha Lowe, in her fifth pregnancy, was taken in labour at the seventh month of utero-gestation. A midwife was in attendance, when, at the expiration of a few hours, a little girl was born. The after-pains were unusually troublesome and severe for a short time, when Mr. B.'s aid was requested in order to prescribe for the pains. She stated at the time there was positively another child in her womb, and that she should *then* retain Mr. B. to perform, at the end of *two months*, the duties of accoucheur at the birth of the next child. At this rather novel engagement Mr. B. smiled (not dreaming that she was in earnest), and promised to send her an anodyne, which abated all the pains, and in a short time she was well, and busily engaged about her domestic affairs, and so continued until exactly the day two months from the first time that Mr. B. was called in, when, in his presence, another living child full grown, of the same sex, was speedily ushered into the world. In the interim of the two births, at the month's end, as is usual, the patient was churched, for safely passing through her first accouchement. The eldest child lived but a few months; the last born is still living, and six months ago resided with her mother, a fine young woman, nearly twenty years of age. *Lancet, Jan.* 14, 1843, *p.* 577.

92.—TABULAR VIEW OF THE TREATMENT OF UTERINE HÆMORRHAGES. By WILLIAM CAMPS, M. D., Edinburgh. (Tableau Synoptique of M. PAUL DUBOIS, Paris.)

HÆMORRHAGE BEFORE PARTURITION.

A. *Slight Hæmorrhage.*—Horizontal position; perfect repose; cool air; cool acidulous fluids; low diet; bleeding, if there be symptoms of plethora. The bladder and rectum to be emptied.

B. *Severe Hæmorrhage.*—The same treatment as in A., except the bleeding. (1.) At first cold applications; then the ergot of rye, in doses of 12 grains, repeated three times, at intervals of ten minutes. And if these means are insufficient to arrest the hæmorrhage, plug the vagina, or in some especial cases rupture the membranes. (2.)

HÆMORRHAGE DURING PARTURITION.

Slight Hæmorrhage.

Os uteri not dilated, and not dilatable.

Membranes entire: The same means as in A., except the bleeding, which is not indicated unless the symptoms of plethora are exceedingly pronounced.

Membranes ruptured: As above.

Os uteri dilated.

Membranes entire: The same means as in A., then wait or rupture the membranes. (3.)

Membranes ruptured: The same means as in A., and wait; if the pains are feeble or slow, give the ergot of rye. (4.)

Severe Hæmorrhage.

Os uteri not dilated, and not dilatable.

Membranes entire: The same treatment as in A., except the bleeding; then the refrigerants, as cold applications. In case these fail, and if the pains are feeble, the ergot of rye; then rupture the membranes. Lastly, if the state of the os uteri will not allow of turning, plug the vagina.

Membranes ruptured: The same treatment as in A.; refrigerants; ergot of rye if the pains be slow or feeble. In case these fail, compression of the uterus; plug the vagina; introduce the hand, and deliver by turning. (5.)

Os uteri dilated, or dilatable.

Membranes entire: Rupture the membranes (6.); and if this does not succeed, introduce the hand and turn or apply the forceps.

Membranes ruptured: Turning, if the head of the child has not descended into the cavity of the pelvis. (7.) Apply the forceps if the head of the child have already descended into the cavity of the pelvis. Simple extraction if the child present by breech, knees, or feet.

(1.) *The ergot of rye* is employed here as hæmostatic; in the case supposed, there is not, at present, uterine pains; it is not probable that the employment of the ergot of rye should produce them, for hitherto this remedy appears to possess the property of increasing the uterine contractions only when they occur spontaneously, and not that of exciting them, when they do not already exist. (2.) *The plug* will, in the first place, arrest the hæmorrhage; then, by the retention of the blood, and by its presence, it will irritate the *neck* and *orifice* of the uterus, and it will induce the expulsive contractions. These will dilate the *os uteri*, and this dilatation will allow either the rupture of the membranes, or the termination of the accouchement. (3.) This rupture can have no inconvenience; it is a means of preventing the increase of the hæmorrhage. We may always dispense with it, and rest satisfied with waiting until the progress

of the labour shall have arrested the hæmorrhage; the last method is, after all, perhaps the most prudent. A little *more* or a little *less* tendency to the increase of the hæmorrhage should determine the choice of the one or of the other method. 1st. *Wait*, if the hæmorrhage do not increase in any degree, and still more so if it diminish. 2d. *Rupture the membranes* if there be any tendency to increase of the hæmorrhage; this rupture will be profitably preceded or followed by the administration of some doses of the ergot of rye, if the uterine pains are feeble or slow. (4.) It may be asked, if it would not be proper to terminate the accouchement in this case, since the parts concerned seem disposed to this termination. We think that if the fœtus presents in the usual manner, it is better not to be officious with the application of the *forceps* or *turning*, because the employment of these means would be more severe than the *slight* hæmorrhage which appears to demand their use. (5.) This case is one of great delicacy; the application of the plug here requires great caution; for when the vagina is closed up, the blood may possibly accumulate in the cavity of the uterus, so that the patient may be lost, although no blood make its appearance externally; and the danger will be so much the greater, as the uterus shall have been more developed before the rupture of the membranes, and as the uterine contractions shall be more feeble. The application of the plug should be preferred, to the termination of the accouchement, only when the uterine contractions are sufficiently strong, and when, at the rupture of the membranes, only a very small quantity of the liquor amnii shall escape from the uterus. Again, the application of the plug demands great care of, and attention to, the patient, and should be followed by the application of a bandage round the abdomen sufficiently tight to resist the enlargement of the uterus. On the contrary, when the uterine contractions are feeble, when a large quantity of the liquor amnii shall have escaped at the moment of the rupture of the membranes, it will be necessary to overcome the resistance offered by the state of the os uteri, and terminate the accouchement by *turning*. (6.) In this case we may be surprised at the advice to *rupture the membranes*, and *wait*, before adopting any other method, according as the retraction of the uterus may have, or may not have, arrested the hæmorrhage; it seems so important, both to the mother and to the infant, that the birth of the latter should be the result of the uterine contractions alone, rather than of manual interference, very often difficult, that it is very desirable to take the chance of a spontaneous accouchement at all times when there is the probability of obtaining it. It is to be understood that this recommendation to *wait*, is only admissible in case the uterine contractions are neither feeble nor slow. (7.) We may certainly in this case have recourse to the *forceps;* but the employment of this instrument, when the head of the child is above the orifice, and not engaged in the cavity of the pelvis, frequently offers sufficient difficulty to render the delivery by turning preferable.

It will be seen that the indications are based on the slightness or severity of the hæmorrhage, and not on the circumstance of the insertion or non-insertion of the placenta on the neck of the uterus; not that this circumstance is a matter of indifference, for almost always the hæmorrhage produced by the detachment of the placenta inserted over the orifice of the uterus, is one of a very severe and serious character, and demands immediately the employment of the means indicated for severe hæmorrhages. Sometimes the insertion of the placenta on the neck of the uterus, occasions only a slight hæmorrhage; the author does not consider, then, as do the greater part of accouchers, that the insertion of the placenta on the neck of the uterus, requires, in every case, the speedy termination of the accouchement, yet it may modify the employment of the means above indicated. For instance, if in a case of severe hæmorrhage the placenta covers entirely the os uteri, we cannot have recourse to the simple rupture of the membranes, as we could if such were not the case. If the os uteri be neither sufficiently *dilated*, or sufficiently *dilatable*, to allow the introduction of the hand, it will be necessary to employ the plug; if, on the contrary, it be sufficiently *dilated*, or sufficiently *dilatable*, it will be necessary to detach one of the sides of the placenta, in order to make a passage into the

cavity of the uterus, and deliver by turning; but if a portion only of the placenta be inserted on the os uteri, leaving exposed a part of the membranes, we may proceed as if the placenta were not inserted at the os uteri. In no case does it seem advisable to make a passage through the placenta, as some accoucheurs have recommended. Lastly, if the placenta, pushed by the head or the breech of the fœtus, be entirely, or almost entirely, detached, and has passed beyond the orifice of the uterus, we must extract it before the fœtus, for this organ is useless in these circumstances, and its presence in the vagina is an obstacle to the free exercise of the hand, or of instruments.

Medical Gazette, Jan. 13, 1843, *p.* 553.

93.—CASE OF UTERINE HÆMORRHAGE ARRESTED BY PRESSURE ON THE AORTA....By James D. Brown, Esq., Haverfordwest.

I attended a woman, æt. 34, in her fourth confinement; she was a person of lax fibre. The labour was natural, and terminated in six hours; but a violent fit of shivering seized her before the expulsion of the child. I was prepared for the event, and, as I expected, flooding came on to a fearful extent. The placenta was loose, and came away with the first gush. The uterus again dilated, but I passed my fingers into its cavity, in order to excite it to contract, &c., and at the same time made pressure externally, but hæmorrhage still continued in spite of every effort—pressure, cold applications, &c., &c. She had fainted, and recovered, and was suffering from the effects of the loss of blood. I decided on trying the effects of pressure on the abdominal aorta. I had no difficulty in finding it. I made firm pressure on it, which gave the patient some pain. The hæmorrhage ceased directly, and did not recur; I had it in command; to feel satisfied of that, I gently relaxed my grasp once or twice, when bleeding again commenced. I still kept up pressure on the uterus, and administered secale cornutum in brandy and hot water. The woman rallied, the uterus contracted firmly and permanently, and I let loose the vessel, after pressing it for nearly two hours, and all went on as well as possible. A similar case occurred to me in about two months after. I adopted the same means, and with the same pleasing and important results. I found no difficulty in finding the vessel, but I imagine there would be in a stout woman (unless the recti muscles were separated), but even then, relaxing the abdominal muscles would, I think, be sufficient to allow the hand to reach the aorta. I must confess that I thought it a difficult undertaking before I tried. Some authors recommend it to be pressed from the interior of the uterus, which may be done when it cannot be got at *otherwise;* the one plan is not free from danger, the other is completely exempt. I am surprised that so important a measure is not more general—a measure, the principle of which is acknowledged in the most trifling surgical operations, the effects of which are certain and immediate, and the result the saving of life. *Medical Gazette, Dec.* 2, 1842, *p.* 327.

[For a case confirming this mode of practice, see Medical Gazette, December 23, 1842, by Mr. Pretty.]

94.—TANNIN IN UTERINE HÆMORRHAGE.

M. Dumars has published a communication in the Journal of the Society of Practical Medicine, at Montpelier, containing the detail of several cases in which he successfully employed tannin internally in the treatment of uterine hæmorrhage. A woman, twenty-five years old, three months advanced in pregnancy, while travelling in a wagon, was seized with a severe colic, which was followed by a frightful uterine hæmorrhage. A midwife plugged the vagina, and applied cold lotions to the abdomen and thighs, but without advantage; the plug was expelled. When M. Dumars arrived, the patient was in a state of complete syncope, and death approaching. He ordered pills containing two grains of tannin with a small proportion of opium, one to be taken every hour. By the time she had taken the sixth pill, she fell asleep, and when she awoke, three hours afterwards, the hæmorrhage had almost stopped, and had entirely ceased by the next day. The pills were continued every three hours.

In this case the tannin was given in the form of pills; but circumstances may

arise during syncope, in which, from the difficulty of swallowing, it may become impossible to administer it in that form. In such cases, M. Dumars prescribes it in the form of draughts or injections. Miss ——, six months pregnant, was seized with violent hæmorrhage, after having experienced a severe mental emotion. When seen, she was in a very alarming condition; the abdomen was hard and tympanitic, the skin cold, face pale, the mouth wide open, pulse feeble and intermittent, and complete insensibility. The os uteri was partially dilated, and abortion was very nearly occurring, in fact the slightest delay might prove fatal. M. Dumars ordered four scruples of tannin to be infused for ten minutes in a pint of boiling water, and then to be injected slowly into the bowels. The thighs were brought together, and kept so in a state of flexion, by means of a napkin and pillow, and warm cloths were applied all over the body, after which the following medicine was given, in the dose of a spoonful every half hour: Ninety-six scruples of water of black cherries, sixteen scruples of orange flower water, forty-eight scruples of linden water, ten grains of pure tannin, forty-eight scruples of syrup of diacodium. The medicine was administered by means of a funnel. After the lapse of three hours Miss —— opened her eyes, and the pulse increased in power; some spoonsful of soup were then given. On examination, the hæmorrhage was found to have nearly ceased. Twenty-four hours afterwards the patient had recovered her senses; the os uteri had closed, and the bleeding was arrested. The movements of the child were felt soon afterwards. The mother went her full time, and had a happy delivery. *Provincial Medical Journal, Nov.* 18, 1842, *p.* 162.

95.—CASE OF INVERSION OF THE WOMB.

D. Humphreys Storer, M. D., reported to the Boston Society for Medical Improvement, April 11, 1842, the following case of inversion of the uterus:

He was called to a woman in labour. In ten or fifteen minutes there came two smart pains, and the child was born. In five minutes the placenta was thrown off. The cord was not touched, except to divide and remove the child. On putting his hand under the clothes, to take away, as he supposed, the placenta, he found that he had hold of the uterus with the placenta attached. He removed the placenta, put his fingers to the fundus of the uterus, and passed it up without the slightest difficulty. There was some flowing from the uterus where the placenta was detached, but not great, and none after it had passed up. The woman was very much prostrated, and for an hour appeared as if she was dying. She however revived, and the next morning was comfortable. This case proves that inversion may take place without the interference of the practitioner, for no traction whatever was made upon the cord, which was of the usual length, and not encircling the child.

Drs. Dewees, Burns, and Gooch, in cases of inversion, advise, when it can be accomplished, the return of the uterus before the removal of the placenta, on account of the dangerous hæmorrhage which is otherwise liable to ensue. Dr. Bard recommends the previous removal of the placenta. Dr. Storer followed in this case the practice of Dr. Bard, and the ease with which the uterus returned, and the happy convalescence thus far, she being as well to-day (the sixteenth day after delivery) as she had been at the same period during any former pregnancy, proves the course to have been a judicious one. The placenta was very large, and he believed that had he made any attempt to return it, he would have met with difficulty, from its mere bulk. In a case of inverted uterus, related by Dr. Meigs, of Philadelphia, in his practice of midwifery, he was unable to return it with the placenta, and at the suggestion of Dr. James, the afterbirth was removed from its attachment. Afterwards, with considerable difficulty, a reduction of the organ was effected. The little blood which was lost after the placenta was removed, in the case reported by Dr. Storer, showed, he thought, that the great dread of uterine hæmorrhage, which is felt by physicians from the removal of the placenta, even should no uterine contraction immediately occur, is not well founded. As soon as the placenta was detached, the hæmorrhage ceased, and although the uterus was so completely relaxed as to allow the hand to pass with perfect freedom without the slightest muscular contraction being perceived, there was no bleeding. *Medical Gazette. Dec.* 16. 1842 *p.*128

96.—ALTERNATE WARMTH AND COLD as an Excitement to UTERINE ACTION

By CHARLES SIMPSON, Esq., Stamford. (In a Letter to Dr. Marshall Hall.)

Some little time ago I had under my care a case of puerperal convulsions which terminated well. In the course of it two circumstances illustrative of your system occurred. The patient became conscious, but was obstinate. With great difficulty I forced some liquid into the mouth, but she would not swallow; I therefore dashed cold water in the face, and the contents of the mouth were instantly gulped down. This novel mode of making patients swallow was repeated, I should say, a dozen times, and with the same invariable effect. During the convulsions the labour stopped. There was, as it were, a metastasis of muscular action, from the apparatus of parturition, distributed over the whole system. Every resource in this state of things which was employed to produce uterine pains did but aggravate the general convulsions without acting on the uterus itself. After the lapse of many hours, however, the labour was resumed, and now the cold water, applied suddenly to the abdomen, was most effective in producing uterine contractions. After a little while, however, this lost its utility. The abdominal surface becoming *cold* from the repeated application, the water no longer acted as an *excitant*. Accordingly warm flannels were applied to restore the temperature, and then cold water was again applied with decided effect. This alternate application of cold and heat strikes me as being something new; it is of great value in cases of hæmorrhage from the uterus. The vital power of the patient is unable to bear the continued application of the cold, and when that ceases to do good, it must, under such circumstances, produce harm. With the alternate application of heat and cold, however, the latter valuable remedy may be used, so long as it is necessary, without fear of its utility being worn out. *Lancet, Dec.* 17, 1842, *p.* 437.

97.—CÆSARIAN SECTION SUCCESSFULLY PERFORMED.—By DR. MERREM.

A woman, 30 years of age, had already been three times delivered by means of the perforator and crotchet. Pregnant for the fourth time, and having suffered extremely from the 12th to the 15th of August, without a prospect of the head passing the pelvis, the patient consented to the Cæsarian operation, which had been proposed to her early in the course of the 14th. The operation was done in the usual way, in the linea alba, and the only difficulty experienced was in disengaging the head from the isthmus of the pelvis, into which it was firmly wedged. The child, when sprinkled with cold water, began immediately to cry, and moved freely. The mother declared the pain of the operation nothing, when compared with the suffering she had already endured. It was begun and completed in a quarter of an hour. 16th. Belly distended with flatus; some pain; no fever. A suppository was followed by the discharge of much flatus, and complete relief to the pain. A little soothing electuary was all the medicine that was prescribed or required. The mother nursed her child, and in four weeks was going about her ordinary household affairs. *Medicin. Zeitung.*

98.—ON THE AMMONIACAL SOLUTION OF ERGOT OF RYE.

By W. R. GORE, M. D.

Mode of Preparation.—Into half a pint of aromatic spirits of ammonia, I put four ounces of fresh ergot of rye, bruised coarsely. I allow this to stand for a month, frequently stirring the ingredient with a glass rod in the fluid; after which I squeeze every drop of the spirit out of the rye. The "ammoniacal solution" thus made, has a fine dark colour, and looks inspissated. In a glass-stoppered bottle it may be preserved for any length of time without deterioration of power. This solution contains all the active principles of the rye in a convenient form, and increased efficacy, the ammonia causing the ergot to act more rapidly, and with greater certainty. I administer 30 drops of it in a wine-glass of cold water, every ten minutes, until the action required is sufficiently developed, applying gentle pressure with the flat of the hand, to the abdomen, when the pains are present. Three such doses have, in the majority of cases which came under my observation, proved sufficient; but circumstances will now and then alter the requirements, as in other branches of medical practice in respect to various remedies. *Medical Times, Nov.* 5, 1842, *p.* 92

99.—REMARKS ON FORCEPS CASES....By Dr. Robert Lee, F.R.S., &c., &c.

In more than twenty cases of protracted labour, where it had been proposed to deliver with the forceps, the histories of which it would be tedious to relate, I recommended delay, and they all terminated favourably without artificial assistance. Five of the mothers whose cases have now been related, died from puerperal convulsions, and four from the rash and inconsiderate use of the forceps. Seven had the perinæum more or less injured, one the recto-vaginal septum torn, five were left with cicatrices of the vagina after sloughing, and one with an incurable vesico-vaginal fistula. In none did any benefit result from the instrument before the greater part of the head of the child had passed through the brim of the pelvis, and the orifice of the uterus was fully dilated. In one case only was the employment of the forceps advantageous, where the blades were applied and locked with great difficulty, and great force required to extract the head of the child. Seventeen of the children were born alive and lived.

In protracted labours, when the head has made no sensible advance for hours, and becomes compressed, the scalp puffy and swollen, the vagina dry, hot, and tender, the discharges offensive, and when the bladder cannot be emptied without the catheter, it is dangerous to trust longer to the natural efforts. If along with these symptoms, there is tenderness of the abdomen, fever, incoherence, restlessness, and exhaustion, delaying long to deliver is invariably followed by the most injurious consequences, as the cases related in the next report sufficiently prove. *Lon. and Edin. Monthly Jour. of Med. Science, Jan.* 1843, *p.* 59.

[The above opinion of Dr. Lee's will be corroborated by the fact, that we have ourselves attended about 3000 labours, and have only had occasion to use the forceps about six times; so convinced are we of the efficacy of delay assisted by secale, to carry the child through pelves, which formerly it was considered impossible for them to pass.]

100.—HÆMORRHAGE FROM A VARIX of the LEFT LABIUM.....By Dr. Hesse.

A married woman, nearly at the close of her fifteenth pregnancy, after having gone through her domestic duties in the morning, had laid herself down to sleep after dinner, (which she had eaten with appetite), when she was suddenly seized with profuse bleeding from the pudendum. The midwife was sent for forthwith; but she, seeing the urgency of the case, called in Dr. Hesse, who only arrived, however, as the poor woman was on the point of expiring. The bed and bedding were soaked with blood. On examining the parts, the os uteri was found closed, and the vagina dry. At this moment the patient expired. The Cæsarian section was immediately performed: but the child was dead. The uterus appeared exsanguine. In the left labium pudendi, which was large and flabby, there was an opening of about half an inch in length, from which black tar-like blood was readily expressed. The opening led to numerous venous canals, both laterally and inwards, deep into the perinæum. The husband informed Dr. Hesse, that his wife had long laboured under a great enlargement or swelling of the left labium. This swelling appeared to be nothing more nor less than an enormous varix. *Medicinische Zeitung.*

Another case of death from the bursting of a varix in the thigh of a pregnant woman, is narrated by Dr. Killer, immediately after the one quoted above. Here the Cæsarian operation was also performed in vain; but as it was done one hour and a half after the death of the woman, it could not be expected to succeed. *Lond. and Edin. Mon. Jour. of Med. Science, Feb.*, 1843, *p.* 152.

101.—THE DISCREPANCY OF OPINION BETWEEN BRITISH AND CONTINENTAL ACCOUCHEURS, ON VARIOUS SUBJECTS.

By Dr. Robert Lee, F.R.S., Lecturer on Midwifery at St. George's Hospital.

[This difference of opinion is brought forward by Dr. Robert Lee in his work on Clinical Midwifery, and shows the very extraordinary views of our neighbors.]

The *forceps* is very rarely employed in this country, before the os uteri is soft and well dilated, or before the head of the child has descended so low into the

pelvis that an ear may be felt. It is used solely with the view, as our author says, of supplying that power which the uterus does not possess at the time. Hence it is chiefly in cases of great exhaustion, or of hæmorrhage, or convulsions, or of other accidents where it is necessary to expedite the delivery of the child, that the British accoucheur has recourse to the instrument. If the pelvis be considerably deformed, or if the soft parts be still rigid and unyielding, he prefers others means to effect the same end.

Now mark the difference in these respects on the part of French physicians: "The employment of the long forceps in cases of distorted pelvis has been recommended by Baudelocque, Boivin, Lachapelle, Capuron, Maygrier, Velpeau, and Flammant, whose works contain ample instructions for its use, before the head of the child has entered the brim of the pelvis; and the last of these writers has expressed his belief, that the instrument is more frequently required while the head of the child remains above the superior aperture of the pelvis, than after it has descended into the cavity."

We need scarcely say how injudicious, nay, how dangerous, such practice must necessarily be. Take, again, the subject of *craniotomy*. Dr. Lee thus clearly points out the circumstances which warrant and require the performance of this operation: "It is performed," says he, "by all British practitioners of reputation, whether the child be alive or dead, if the condition of the mother is such as to render delivery absolutely necessary, and the head of the child is beyond the reach of the forceps, or where, from distortion of the pelvis, or rigidity of the os uteri and vagina, it cannot be extracted if its volume is not reduced. This operation is performed from a conviction that, if neglected to be done at a sufficiently early period, the mother's life will be sacrificed, and the life of the mother is considered as much more important than that of the child."

The French condemn us for unnecessarily sacrificing the life of the child on many occasions! According to them, the operation of craniotomy should never be resorted to, until it has clearly been made out that the fœtus is dead, whatever may be the state of the mother at the time. Baudelocque expressly says, "nothing can excuse the conduct of the practitioner who would perforate the head of the child without previously knowing with certainty that it was not alive, a circumstance which can alone authorise us to employ the perforator and crotchet;" and Velpeau—whose authority, by-the-by, we should not value much—goes even further than this, and maintains that, even when the child is dead, if the diameter of the pelvis is only 15 lines, or if the whole hand cannot be passed into the cavity of the uterus to turn the child, the Cæsarian operation is to be performed. Pity the poor French women who are entrusted to the tender mercies of such an accoucheur, say we. The practice of many of the leading accoucheurs in Germany is much alike. If the child be alive, and if there be no room for it to pass, the general rule seems to be to perform *hysterotomy*, or the Cæsarian section, rather than *craniotomy*.

Let us now for a moment consider the results, as well as we can judge from published reports, for, as Dr. Lee observes, not a few fatal cases on the Continent are ever made known, of the former frightful operation. Michaelis has collected the reports of 258 cases, of which 144 occurred in the last, and 110 in the present century; of these cases 140 proved fatal. Velpeau tells us that the operation was performed 28 times between the years 1810 and 1820, and 62 times between 1821 and 1831—a statement which confirms what we have heard said, that the frequency of the operation on the Continent is, of late years, on the increase. Dr. Churchill says that it has been performed 316 times during the last ninety-one years, and that the mortality has been 52.8 per cent for the mothers. (Is it not higher than this?) Our readers need scarcely be told that the Cæsarian section has very rarely succeeded in this country. The cause is abundantly obvious; the unwillingness to have recourse to so terrible a resource, unless the life of the mother peremptorily requires it. "There is no eminent accoucheur now practising in London, who has been present at the performance of the operation upon the living body, or who would recommend it, if delivery could be effected by the perforator and crotchet."

Long may our countrymen continue to act on this principle. Where are the circumstances that can ever warrant the certain endangerment, nay, often the more than probable sacrifice, of a mother's life for the chance—and, be it remembered, it is nothing more—of preserving that of her child? How few of the children that "have been ripped from their mothers' belly," like the Thane of Cawdor, have been reared! and then think what a miserable end for a poor creature, after undergoing the sharpest pangs that flesh can know, to be subjected to a painful and bloody operation, not for her own, but for another's possible advantage! Every principle of humanity and religion is opposed to such a practice; nay, even the cold dictates of mere science and physiology must condemn it. Why, then, it may be asked, should practitioners abroad have recourse to it with so little hesitation? The answer is simple, and will at once be surmised by those who are at all acquainted with medical practice on the Continent, and more especially in France. Patients, at least those among the poorer classes, seem to be regarded, not so much as fellow-creatures that have the same hopes and fears and the same feelings and destinies as ourselves, but rather as objects, so to speak, of natural history, which the learned doctor has to speculate and experiment upon.

The golden rule, not to do unto others what we should not wish done unto ourselves in similar circumstances, is too often forgotten by us all. The last subject of discrepancy of opinion between British and Continental accoucheurs that we shall notice at present, is the very important one of *inducing premature labour*, when the life of the mother is endangered by allowing pregnancy to go on to its full period. "In numerous cases," we avail ourselves of Dr. Lee's own remarks, "it has been successfully employed in this country, and it is now ascertained that the operation is attended with little risk to the mother, and that nearly one half of the children are born alive and continue to live where it is performed after the seventh month. In cases of great distortion of the pelvis, the induction of premature labour at an early period of pregnancy, before the sixth month, is likewise known to be a safe operation, and to render craniotomy and the Cæsarian section wholly unnecessary."

In Germany and Holland, the operation has of late years been frequently resorted to, with very satisfactory results, and in these countries the practice is gradually rising in estimation. Not so in France. There is scarcely a single obstetrical writer who approves, or has performed it. Baudelocque and Duges condemn it, and Mad. Lachapelle, the celebrated "sage-femme" of Paris, tells us that she has never either employed it nor seen it employed. The Academy of Medicine held a long discussion, in 1827, on the propriety of the practice, and the learned body then decided that it was unjustifiable under any circumstances! We have very little doubt but that this judgement will be reversed ere long, and strongly suspect, at the same time, that our enthusiastic confreres will be, one of these days, "going a-head" of their neighbors on this very subject.

Medico-Chirurgical Review, Jan., 1843, *p.* 231.

102.—THEORY OF MENSTRUATION....By G. F. Girdwood, Esq., Paddington

[The following paper was drawn up by Mr. Girdwood, at the solicitation of Dr. Robert Grant; and it is right to be known that Dr. Grant was made fully acquainted with these opinions of Mr. Girdwood, in 1836, when he was not aware of the extent to which the important results of his experience had been anticipated by previous observers. These observations, however, do not lose their interest even now, and confirm, in a remarkable manner, what has more recently been promulgated respecting these doctrines. Mr. Girdwood exhibits a preparation taken from a young unmarried female, who he knew had menstruated about thirty-six times. The ovaries presented several indentations or small cicatrices, about the size of mustard-seeds. From 32 to 34 of these marks could be detected—abou 18 in one and 16 in the other ovary.]

The ovary of a female who has never menstruated, is a soft, pulpy mass, oval in shape, with a regularly defined outline, and possesses a smooth, polished, glistening surface. In a female who has menstruated *e. g.* for ten years, and

whose second lustrum of menstruation has thus passed, the external characters of the ovary have much changed. The soft, glistening, polished surface is now seamed and scarred throughout; its regular oval form no longer exists; deep corrugations have destroyed it; scars, some still isolated, appear, but a mass of cicatrices, irregular and ill-defined, generally marks the surface. The ovary of a female approaching anility, who has ceased to indicate, by the usual periodic secretions, her capability for fecundation, has lost entirely its regular rotundity and plumpness, and instead of a soft, pulpy, glistening substance, it is a grisly, withered, corrugated mass.

Small vesicular ovules exist in great numbers in the stroma or parenchyma of the ovary; they may be seen there in different stages of development; some, far in advance of others, are so increased in size, that even in the ovary of a six months' fœtus they are evident without the use of a lens.* As the female approaches puberty, some one of the ovules becomes more and more developed, approaches the surface, and, as in the instance I am now going to relate, it occasions a transparency of some degree over this small Graafian vesicle.

In June, 1834, a whole family were ill of scarlet fever, under the care of Mr. Richardson, of Bayswater, and myself. A girl, between eight and nine years, succumbed to the disease. In her the ovaries presented the usual polished, glistening surface of those of a female that had not menstruated. A spot, however, on the left ovary was distinctly perceptible, and arrested attention; it was to some extent transparent, slightly elevated, and surrounded by a net-work of injected capillaries. On cutting open this ovary the transparency and elevation were found to be owing to one of these vesicles, very much enlarged, and indeed now projecting immediately under the peritoneum. Had this girl lived and reached puberty, what would have happened in respect to this vesicle? I have no doubt that it would have escaped from the ovary, passed through the fallopian tube and uterus, and that this phenomenon would have been coexistent with the first period of menstruation; and had she died immediately after, or during the act of this first menstrual secretion, appearances similar to what I have now to notice would undoubtedly have been found.

In December, 1832, Ann Davies died of scarlet fever, under the care of Mr. Webster, surgeon, of Connaught-terrace, and myself. The menstrual flux made its appearance *six hours before dissolution*. On the left ovary there was an oval cavity, large enough to admit a tare, and no doubt left by the recent escape of an ovule; its margin was unequal and floccular, and, as well as the walls throughout, of a deep red colour. This female had menstruated for years, and the appearances which I consider as the usual indications of frequent menstruation, as already described were evident on the surface of the ovaries. The ovaries and the uterus of this female were carefully removed from the body, and the day after our examination were presented to Dr. Robert Lee, to whom I repeated (what I had previously communicated to him) my views on this and similar appearances, as detailed in this communication, but I could not then induce that distinguished pathologist to adopt my views.†

In my case-book I find, under date of May 23, 1835, the following memoranda:—"Emma Bull died yesterday, dropsical, the result of diseased heart and lungs. Two years ago, during an attack of asthma, after much pain in the pelvis, she menstruated, this being the first and only time she had ever had that secretion. I opened the body this morning. The ovaries were plump and rather larger than usual, soft to the touch, and glistening. There were here and there diaphanous specks, caused by the absorption or thinness of the peritoneal coat, and the approach to the surface of the Graafian vesicles. There was no mark or scar whatever on the right ovary; but on the left, about the cen-

* These were distinctly seen by me in a six months' fœtus of a pregnant woman who drowned herself in Paddington canal, in 1834.

† In the Lancet of June 29, 1839, is given the account of a meeting of the Medico-Chirurgical Society, at which a paper by Dr. Lee was read, on the corpus luteum, and when Mr. Solly mentioned that in a young lady who had died shortly after her menstrual period, and of whose chastity there could be no doubt, there existed appearances of a nature similar to those in this case, and which were perfectly in accordance with the views I have developed, the expression used is that "an enormous corpus luteum was discovered."

tre of the posterior surface, where existed a reddish part, about the size of a mustard-seed, which had quite the appearance of an ulceration skinned over. The uterus and its appendages are in the possession of Mr. Webster. During the same year a young woman also died under my care. She had menstruated three times. The surface of one ovary presented two cicatrices; that of the other, one similar to that described in the last case. In January, 1834, Jane Cumming, eighteen years of age, died of consumption. She had menstruated only six times. Mr. Webster, who was aware of my views regarding the exciting cause of menstruation, and of my anxiety to examine the ovaries, allowed me to be present at the autopsy. We could readily detect five depressions or cicatrices, three on one, two on the other ovary, of a sixth we were doubtful. In August, 1838, I opened the body of Miss G., who had not completed her sixteenth year, and who had been regular for two years previous to her sudden death. In her I found about twenty-two of the usual marks on the ovaries. All these appearances, as they occurred in these different cases, were brought under the notice of my friend Dr. Robert Lee, but still without being able to convince him that the views I entertained respecting their cause, as above explained, were correct.*

What? I hear it asked, Are we to credit in our own species the fact of a female passing eggs every few weeks for twenty or thirty years? The statements I have made above, however, are of facts, and such as are capable of easy corroboration. Nor, indeed, is there any thing wonderful in a female passing periodically these numerous eggs, as asserted. Let her be supposed to continue for twenty or thirty years in this fecundative condition, with her ovaries performing regularly their functions, there would have been, even then, only from two hundred and forty to three hundred and sixty ova passed; and, tracing the state of these organs from their soft pulpy condition previous to puberty, through the regular changes they undergo as the woman advances in years, up to the withered, shrivelled, corrugated form they present when anility arrives—is it too much to conceive that each ovary may have had from one hundred and twenty to one hundred and eighty times its surface opened for the escape of so many ovules? At all events I repeat the fact, now attested by my numerous observations, that there exists a most close and remarkable relation between the number of cicatrices on the surface of the ovaries and the number of times a female has menstruated.

[Mr. Girdwood pays a just tribute of respect to the memory of Dr. Power, who had anticipated him in his investigations without his knowledge of this fact, till referred to his admirable treatise by Professor Grant.]

Lancet, March 4, 1843, *p.* 825.

103.—SPERMATOZOA OBSERVED WITHIN THE OVUM.

By Martin Barry, M.D., F.R.S, &c.

Several months since I communicated to the Royal Society the fact that I had observed, and shown to Professor Owen and others, spermatozoa *within* the mammiferous ovum. The ova were those of the rabbit, taken twenty-four hours *post coitum* from the Fallopian tube. I have this day confirmed the observation; several ova from the Fallopian tube of another of these animals, in a somewhat earlier stage, having presented spermatozoa in their interior, i. e. (as in the first observation) within the thick transparent membrane ("*zona pellucida*") brought with the ovum from the ovary. *Medical Gazette, April* 7, 1843, *p.* 73.

* Indeed, I cannot find that in his frequent published communications Dr. Lee takes any notice of these cicatrices until last year, when I perceive in his lectures he incidentally alludes to them. Mentioning the case Sir A. Cooper sent him, and those I showed him, he adds, that he "was not then aware that cicatrices are never present on the surface of the ovaria before menstruation has commenced." This is quite true, for although I had seen cases often enough to satisfy myself of the truth of my views, the cases related in this letter were the first of so decided a character, which it was in my power to offer for the conviction of others

ANATOMY, PHYSIOLOGY, AND PATHOLOGY

104.—OBSERVATIONS ON THE BLOOD, WITH REFERENCE TO ITS CONDITION IN THE MORBUS BRIGHTII.

By George Owen Rees, M.D. F.R.S., &c.

In proceeding to treat of the red colouring matter as a constituent of the blood-corpuscle, I must premise that great confusion has arisen from the terms 'red particle,' 'red globule,' 'red corpuscle,' being regarded as synonymous with hæmatosine or colouring matter; the latter expression meaning, in its correct signification, nothing more than one of the constituent parts of the red corpuscles; there being a white matter also present in those bodies, which chemists have only noticed within the last few years, and have never yet ventured to define more particularly than as the white matter of the corpuscles.

Assisted with the evidence afforded by some recent microscopic observations, I have been led to determine on a larger scale what I believe to be the true relation between the red colouring or hæmatosine and the white matter of the corpuscles. The microscopic experiments to which I allude, demonstrated that the red corpuscles were closed sacs, containing a fluid within them; and made it a matter of interest further to ascertain whether the fluid were red; or, on the contrary, that the corpuscle owed its colour to the redness of the enveloping membrane, the fluid within being without colour. The former of the views is certainly the most generally entertained by micrographers, though we find Schultze regarding the latter as the more correct;—and it is not easy to devise means for testing the truth of either position by microscopic examination. In considering this question, it occurred to me, that if the blood corpuscle were a closed sac, capable of being burst by the addition of water—a point proved by microscopic experiments—we might, by thus treating a large quantity of collected corpuscles and bursting them, be enabled to collect the burst cases in mass at the bottom of the water, which would hold their contents in solution;—that we could thus examine their colour, and by this simple experiment set the question at rest. With this view, the serum was decanted from a specimen of coagulated blood. The clot was next carefully washed in the serum, in order to get as many red corpuscles as possible into the liquor; it was then removed, and the serum set aside to allow the red corpuscles to subside. Subsidence being complete, which occupied several hours, the supernatant serum was decanted, as nearly as possible without disturbing the deposit, and the deep-red thick mixture at the bottom poured into distilled water, in order to burst the membranes of the corpuscles. This aqueous mixture was then well stirred, and set aside; when, after a few hours had elapsed, I observed a white deposit at the bottom of the containing vessel, while the supernatant liquor remained quite clear, and of a fine red colour. Now, with a previous knowledge that the blood corpuscles are burst by water, and likewise that they are sacs containing a fluid, this experiment makes it pretty certain that the containing sacs are white, and the contained liquor of a red colour.

I do not wish here to enter at length on the description of what I feel confident in my own mind should be regarded as the nucleus of the blood-corpuscle; but merely have to state, that the microscopic examination of the white precipitate to which I have above alluded, has completely confirmed my former views of this question; satisfying me that the deposit is made up of burst membranes of corpuscles, and of nuclei; the matter being apparently the same structures which some writers have regarded as corpuscles deprived of their red colouring matter—a condition which, from what has been already demonstrated concerning the corpuscle, can never occur; inasmuch as destruction of the inclosing membrane of the corpuscle is necessary before its colouring matter can be extracted; after which violence, it is obvious that any soft solid maintaining a definite form, and which can be seen and measured under the microscope, must be some constituent of original organized structure, which has now become disintegrated.

The opinion, that the membranes of the blood-corpuscles, notwithstanding their extreme tenuity, possessed in common with other animal structures the property of admitting the passage of fluids in accordance with the law of endosmose, and which was first noticed and described by Mr. Lane and myself in the Guy's Hospital Reports, has been, up to the present time, entirely supported by microscopic evidence. I am anxious, on the present occasion, to prove the truth of this view, by relating some experiments conducted on large quantities of blood; not only more firmly to establish a necessary premise to my conclusions, but also to show that the correctness of opinions, the results of microscopic examination, occasionally admits of being proved by experiments conducted on masses visible to the unassisted eye.

Now, if it be true that liquors pass in and out of the blood-corpuscles in proportions bearing a ratio to their specific gravities, then, if a large quantity of corpuscles be collected, we ought, by treating them with solutions of different densities, to be able to produce conditions which will differently affect their contents; the higher specific gravities taking out large proportions of those contents; the lower specific gravities removing less from within the corpuscle; and our liquors obtained after deposition has occurred ought to be differently coloured accordingly: some should be deeply tinged with red; others almost white, having, from their less specific gravity, entered the corpuscle in large proportion, and only drawn out a very small quantity of its coloured liquor. The results obtained from experiments conducted as above described have been in exact accordance with those microscopic views, the correctness of which they were intended to test. Thus, when a quantity of corpuscles obtained by subsi

dence from serum were mixed with a common salt, as nearly as possible of the specific gravity of the liquor by which the corpuscle was surrounded, and consequently of the same specific gravity as the liquor within, the mixture deposited the corpuscles unaltered, and the supernatant solution was colourless, owing to the difficulty of admixture occurring between liquors of the same specific gravity through the membrane containing the red colouring matter. When, however, a liquor of higher specific gravity was mixed with another portion of these subsided corpuscles, then the conditions were completely altered; the subsided corpuscles exhibiting a darker colour at the bottom of the vessel, owing to their aggregating more closely from being to a certain extent collapsed; and the supernatant liquor, instead of being colourless, was tinged of a deep red; the liquor of higher specific gravity having extracted a large quantity of the contents of the corpuscles. When the reverse of this experiment was performed by making the mixture with a solution of less-specific gravity than the liquor within the corpuscle, then the subsided mass was less compact, and somewhat lighter in colour, but still red; and the supernatant liquor exhibited but a feeble and scarcely perceptible tinge of pink, owing to the small quantity of colouring matter which would escape from within the corpuscles; while the liquor of less-specific gravity would enter in large proportion from without, swelling them, and thus making them occupy more room as a precipitate. It may be stated here, that a solution of any salt which does not act as a precipitant of serum, or even sugar, will serve to shew these effects; the conditions produced being then entirely governed by the specific gravity of the solutions, and in no way resulting from the chemical qualities of the salt. The next point to which I must allude, in connexion with the subject of healthy blood, is the condition of the iron, and its true position in the organization of the corpuscle. It has already been proved that the red colouring matter is a fluid contained within a vesicle; which vesicle allows of the passage of fluids from without to within, and *vice versa*, according to certain fixed laws: and I shall now endeavor to show that the iron of the blood is contained in this red liquor, and not in any other of the constituent parts of the corpuscle. If we repeat the first experiment which I detailed, and which consisted in bursting the vesicles of a mass of corpuscles, and so destroying them by the addition of distilled-water, we can obtain a solution of their coloured contents, either by allowing the subsidence of the cases and nuclei and pouring off the clear liquor, or by performing a careful filtration through doubled blotting-paper. If the clear solution so obtained be now evaporated to dryness, I find, by incineration of the dried mass, that it contains the whole of the iron of the corpuscles; while the white matter which subsides (composed of burst cases and nuclei), if well washed from adhering colouring matter, does not yield the slightest indication of the presence of the metal. We may therefore conclude that the red liquor of the corpuscles contains the whole of the iron, and in a very soluble form.

Those who have studied the appearances put on by the blood-corpuscles, as seen under the microscope, whatever may be their opinion concerning the method of re-production, will, I am sure, allow that corpuscles of a smaller size are constantly to be detected mixed up with those of a mature growth; and I have myself, on several occasions, been satisfied, by experiment, that these smaller corpuscles possess precisely the same physical attributes as the larger ones, in relation to endosmodic phenomena. Now, it must be a necessary part of the process, by which these small corpuscles arrive at maturity, that iron enter within the envelope, to supply one of the constituents of the red colouring matter; and to ensure this effect, two conditions are required:—1. A liquor containing iron in solution must be applied to the membrane of the corpuscle; and, 2. This liquor must be of a specific gravity less than that contained within the corpuscle, or it will not enter it in quantity. Both these required conditions are to be found as physico-chemical characteristics of the mixture of chyle and lymph, which enters the blood by the thoracic-duct, to which fluid all experimenters have given a lower specific gravity than the liquor sanguinis. Thus the specific gravity of the contents of the thoracic-duct in the human subject, which I lately analysed, was 1024, while that of the liquor sanguines may be given at about 1052, at the least.

From other experiments, on the cat, the dog, and the ass, I am satisfied of the general truth of this statement. The iron which exists in the chyle is not contained in the crassamentum, which forms by coagulation; but we find it, on the contrary, as a constituent of the serum in a perfect state of solution, so that it may enter with facility through the membranes of the corpuscles; so perfect, indeed, is this solution, that, even after evaporating the chyle to dryness, we are enabled to extract the iron from the albuminous matters by digestion in water. It exists, in fact, dissolved in that constituent of the chyle which is called the aqueous extractive, and most probably in the form of lactate. Nature has, then, in this admirable manner provided for the introduction of iron into the corpuscle, by presenting it in a perfectly soluble form to the enveloping membrane, and dissolved in a liquor of a specific gravity suited to effect the necessary endosmodic actions.

Having thus shewn the reason why iron exists in the serum, and not in the crassamentum of the chyle—and also, why the contents of the thoracic duct are of less-specific gravity than the liquor sanguinis—I wish to direct attention to the series of pathological phænomena which may be expected to arise when this due balance and arrangement of the physical properties of the fluids becomes destroyed, and when, by a diseased condition of longer or shorter duration, the blood so far varies from its normal standard as to present obstacles to the performance of those actions on the part of the chyle which must be considered as necessary for the preservation of animal life.

From what has been demonstrated at the commencement of this paper, it is evident, that as the important changes of respiration occur in the colouring matter and since that colouring matter is contained within a membrane, a healthy condition of this envelope, such as admits of the transmission of liquors and gases according to certain fixed laws, is as necessary for the

maintenance of life and health as is the perviousness of the larynx, trachea, or bronchi; and any general cause acting upon the corpuscle, so as to interfere with those properties, may be expected to destroy life as rapidly as would the closure of any of the openings communicating between the atmosphere and the internal pulmonary surface.

Again, let the blood become deranged so that its specific gravity is lessened, and we may feel assured, that if the physical qualities, more especially the specific gravity of the chyle, be not simultaneously affected, and that, too, in a due proportion, the result must be, that the red colouring matter, the great oxygenator of the blood, is no longer produced in its ordinary quantity; the ferruginous serum of the chyle not being able to enter the blood-corpuscle as in health. Again, if the degeneration above alluded to take place, we must recollect that all the solids of the body through which the blood-courses are formed with pores and of material admitting of endosmodic action; and that it is impossible for solid constituents to preserve their health if constantly acted upon by the blood at a specific gravity of 1030 to 36, instead of 1052 to 57; the equilibrium of health being no longer preserved, and the watery blood inducing a like condition in the other solids. In throwing out these suggestions, I am prompted by a desire to draw the attention of the profession to the great importance of the study of endosmodic action, as applied to pathology; many of the phænomena of the Morbus Brightii being apparently attributable to a condition of blood such as I have above noticed.

On examining the cases of this disease, the following will appear the prominent features to which attention should be more especially directed:—1. The excessive quantity of water in the blood. 2. The existence of the blood of one of the ingredients of the urine. 3. The existence of the same ingredient of the urine in the milk, and also in the fluids effused into various serous cavities. 4. The absence or deficiency in the urine of one or more of the natural ingredients of the excretion. 5. The general watery condition of the urine. 6. The existence of albumen in the urine. *Guy's Hospital Reports, April* 1843, *p.* 319.

105.—CONSTIPATION FOR FORTY-FIVE DAYS.

Dr. James Johnson relates the following case, which had terminated fatally that day. The patient, a medical man, about forty-five years, had resided in London about eighteen months, with the intention of practising there instead of in the country. Until forty-five days ago he suffered only from occasional spasms of the bowels, the spasms having nothing peculiar in them. His bowels were regular. During the last forty-five days of his life there was no evacuation whatever from the bowels, although every means had been resorted to by Mr. Lane and Dr. Sims to produce such action. About a fortnight before death he (Dr. Johnson) joined in consultation. The patient had then severe spasmodic pains in the abdomen, with almost constant vomiting. His stomach seldom retained any thing; the ingesta being either brought up immediately, or two or three hours after being swallowed. None of the matter, however, vomited up, exhibited the slightest stercoraceous character. To afford relief, croton oil, bleeding, and croton-oil injections, were used among other means, and Dr. O'Beirne's tube, which could not be passed up any distance, and seldom more than half a pint of fluid, and never more than a pint, could be injected. During the whole of this time the distension of the bowels increased, and his extreme sufferings were only occasionally relieved by the internal use of opium, and by opiate frictions over the abdomen. Five days before death, at his own urgent request, half a pound of fluid mercury was administered to him. This produced no perceptible effect at the time, but the next day he was seized with spasms in the abdomen. This constipation remained. On one occasion his agony from the distended abdomen was so great that he begged it might be punctured to give him relief. He died that morning at eight o'clock, and at four in the afternoon of the same day the body was examined. The tympanitis was enormous. On opening the abdomen there were there scarcely any signs of inflammation having existed; there was no effusion, and the convolutions of the intestines were not adherent to each other. The dilatation of the intestines was very great; the colon was as large as the colon of a horse, and the other intestines were of proportionate magnitude. The diaphragm was thrust up to a remarkable height, and the stomach was so contracted that it was discovered with difficulty. The gall-bladder contained a few drachms of bile. On following the intestines nothing was discovered but wind. Not the slightest trace of the quicksilver which had been swallowed five days before could be seen, but in the sigmoid flexure of the colon was a dark, tarry-like substance, having a very peculiar odour, but neither in appearance nor in smell like a fæcal collection. No globules of mercury could be detected in it. The cause of the obstruction was found at the junction of the sigmoid flexure with the rectum, in which situation was a dense white scirrhus, surrounding the intestines for the space of three-quarters of an inch, and so completely closing the passage, that although the colon above was enormously distended with flatus, not the smallest quantity of air could be made to pass the stricture. The case was remarkable, from the cause of the forty-five days' constipation being *disease*. When constipation was a habit the bowels might be inactive for a longer period, but he (Dr. J.) had never before known such protracted constipation dependent on disease.

London Lancet, Nov. 26, 1842.

RETROSPECT.

The improvement of the stethoscope might seem, at first sight, to be more the province of the Natural Philosopher than of the Physician: but we have evidence that when the natural philosopher attempts this kind of improvement, he is liable to fail, simply, because it is an advantage for the same individual to be acquainted with disease and with its investigation. In Dr. C. J. B. Williams, we have both the natural philosopher and the practical physician, and consequently any suggestions which he offers with respect to the improvement of the stethoscope, we may receive with confidence. We will not in this place take up the reader's attention in recapitulating the various improvements or suggestions which have been, from time to time, made, with reference to this valuable instrument; but will content ourselves by stating, what seems to be the best kind of instrument at the present day. And, once for all, we will take the liberty of saying, that practical utility has invariably been our guide in selecting the mass of valuable matter which is condensed in the pages of all our preceding volumes. Being ourselves engaged in the daily routine of a large and active practice, we invariably ask ourselves, before selecting any article, whether the information which it contains is likely to be useful to us, as practitioners in Medicine or Surgery:—and if we find nothing which is likely to prove such, we hesitate not to put it aside, however interesting in a theoretical point of view it may be. Our work is compiled for men in active practice, who, when the toil of the day is over, may sit down and read what is likely to benefit them in the active bustle of life, without being compelled to turn over page after page of a voluminous journal before they find what they want.

Dr. Williams pointed out, many years ago, "that sounds are best conducted by bodies of an elastic tension, resembling that of the sonorous body; and that, on the other hand, bodies differing in elasticity are bad recipients of each other's vibrations. Thus, wood, although an excellent conductor of sounds generated in itself, or in other solids, receives but imperfectly those produced in air. But by thinning wood, and extending its surface in contact with air, it is much more readily affected by the vibrations of air, and becomes the best medium for transferring to air the sounds of denser solids:" hence, the *source* of the sound, whether it be from the air within the chest, or from the solids of that cavity, will have great influence on the manner in which that sound can be communicated by a stethoscope, or by any other means. Sounds produced in air, as vocal or breath sounds, will be best transmitted by an enclosed column of air; those produced in solids, as heart and friction sounds, are best communicated by rigid solids of the least density. The hollow end of the stethoscope is for the purpose of bringing into close contact with the walls of the chest, as large a surface of air as possible, and to convey the pulses of this air as directly as possible to the ear. The solid walls of the stethoscope have a considerable share in communicating sounds, and this depends in a great measure on the formation of the pectoral end, by which it receives the vibrations. For this purpose, Dr. Williams suggests a stethoscope with a bugle or trumpet end, the edges of which being made very thin, and applied flat on the walls of the chest, are most readily affected by their vibrations. The wood must be of a light rigid texture, as sycamore. Stethoscopes have generally been provided with perforated stoppers to shut out diffused sounds, and to transmit by the central canal æreal sounds from a limited spot. This is of great use in distinguishing pectoriloquy from diffused bronchophony. In Dr. Williams' stethoscope, this object is accomplished by reversing the instrument, and applying the ear to the bugle or trumpet end, and the proper ear end to the chest. This instrument is minutely described in Article 1. (1.*)

* The figures at the end of this paragraph, and throughout the following pages, refer to the articles in the present Part, in which the different subjects here referred to, are treated of at large.

The use of tartar emetic in cases of fever, whenever there is undoubted evidence of determination of blood to the head, producing head-ache, loss of sleep, and delirium, is too well known to require any notice in this place; but its use, combined with opium, in the advanced stages of nervous fevers, is a much more modern practice, and we believe the credit of its first introduction into practice with this praticular purpose, is due to Dr. Graves, of Dublin, who, in his work on clinical medicine, gives a very interesting case, among others, in elucidation of his particular practice. It was that of Mr. Cookson, a medical pupil, who was attacked with fever, which seemed to be going on well for seven or eight days, when symptoms of an hysteric character showed themselves: and, it must be remembered, that in most cases of fever when such is the case, nervous symptoms of the most formidable character will generally come on. On the 14th day his tongue was black and parched, his belly tympanitic, and he had been raving for the last four days, not having slept an hour for four or five days and nights. Dr. Stokes saw the case. Besides other means, the cautious use of opium was resorted to, Dover's powder, and opiate enemata; which, failing in procuring sleep, a full dose of black drop was given, with the conviction, that if this failed in procuring sleep, he would have no chance of life: next morning this was found to have failed; he had universal tremors, and subsultus tendinum, his eye was suffused and restless; he had been lying for some days entirely on his back, his tongue was dry and black, his belly tympanitic, pulse 140, quick and thready; his delirium was chiefly shown in short broken sentences, and in a subdued tone of voice; and it was now eight days and nights since he had slept. Under these circumstances, Dr. Graves suggested a similar medicine to that which he found so successful in delirium tremens, viz., a combination of tartar emetic and laudanum, in the following form:—℞. Ant. Tartar, gr. iv.; Tinct. Opii, ʒi.; Mist. Camphoræ, ℥viij. A tablespoonful to be given every second hour. The success of this was magical, and the patient recovered rapidly. Of course, it would be well in these cases, to proportion the antimony and laudanum to the degree of congestion and nervous symptoms. A certain amount of congestion might not contra-indicate the remedy, provided we increased the tartar emetic and diminished the laudanum; and where the nervous symptoms preponderated, we might reverse this, give more laudanum and diminish the tartar emetic. (2.)

It would be impossible for us, in this place, to give even an analysis of the papers of Dr. Golding Bird, on the physical and pathological characters of urinary deposits; we will, therefore, only refer the reader to the subject in our fourth Article, where it is very copiously treated of. (4.)

Dr. Mettauer, of Virginia, recommends an article as a very powerful astringent, which we cannot find noticed in any of our works on therapeutics, viz., the unripe fruit of the persimmon *(Diospyros Virginiana)*. It is well known in all the temperate regions of the United States, as imparting a very rough taste to the tongue, and from this circumstance, Dr. Mettauer was induced to try it as an astringent in a case of infantile cholera. It succeeded admirably, and has since been tried successfully in a variety of cases, where an astringent was required. It may be used in the form of infusion, syrup, or tincture. The infusion can only be properly made during the seasons which afford the fruit; but as these seasons are the summer and autumnal months, when diarrhœa is generally prevalent, it may be found a good remedy in those countries only where the fruit can be readily obtained. The infusion may be made by infusing from one to two ounces of the fresh immature fruit, slightly crushed, in a common teacupful of boiling water, and of this, from one to three teaspoonfuls may be given to an infant every hour, if necessary: an adult may take from one to three tablespoonfuls every hour or two. The tincture, however, will probably be found most useful, especially to British practitioners who cannot so readily procure the fresh fruit. It is made by digesting one pound of the green persimmon, recently procured, and a little crushed, in one pint and a half of port or any other wine, exposed daily to the solar heat for 14 days, and then filtered. From two to four teaspoonfuls of this tincture is a dose for an adult; and half, or one teaspoonful for an infant. But it is more applicable to disorders of the

adult than to those of the infant. on account of the wine which is used. An aceous tincture may also be made by digesting two pounds of the recent fruit, a little crushed, in two pints of strong pure apple-vinegar, 14 days exposed to the solar heat. This acetous tincture is chiefly used externally, for gargles and cataplasms. It is valuable in tonsillary affections, and in chronic catarrh. This medicine may safely be introduced into this country, and when a variety of astringents are required, it may occasionally be found to supersede our more favourite remedies of this class. In uterine hæmorrhage and in mænorrhagia we may find it useful, not only internally, but externally applied. (5.)

A very remarkable case of recovery after suspended animation is related by Dr. Douglas, of Havre. The man was immersed about fourteen minutes, and respiration did not commence for eight and a half hours: there was not the slightest appearance of animation on his being brought into the Hospital at Havre. The whole treatment consisted in the application of hot bags of sand round the body—lavements of hot water (to which was subsequently added spirits of turpentine and tincture of assafœtida)—and friction. Artificial respiration was tried, but not persisted in. The chief treatment, however, seems to have been by means of the most persevering friction, performed with dry flannel, by relays of four men every half-hour: this was persisted in most indefatigably for eight hours and a half, when respiration commenced very feebly, followed in twenty-four hours by reaction, to such a degree, that eight leeches were applied to the temples, and six ounces of blood taken from the arm. This slight depletion, however, caused so great a collapse, that it was necessary to have recourse to stimulants. Typhoid symptoms set in and continued for six weeks, but the man ultimately recovered. Dr. Todd reminds us that in these cases electricity is very valuable, when brought to bear on the medulla oblongata, which can easily be accomplished by means of the electro-dynamic machine, by placing one wire on the back of the neck and the other at the diaphragm. The value of the application of heat in all cases of suspended animation, has been of late very much questioned by several eminent physiologists. The arguments on this subject will be found in Retrospect, Part IV., Art. 27, and Part V., Art. 15. Dr. Edwards asserts that the progress of asphyxia is much more rapid at high than at low temperatures; and that when the body is heated artificially, or by exercise, it consumes more oxygen in proportion, and consequently requires a greater number of respirations: hence, if we wish the body to do with as little oxygen as possible till respiration is established, we ought to keep the surface cool, and not hot, as is usually done, in resuscitating drowned persons and still-born children. This theory, however, will require some modification since the recent investigations of M. Liebig. In these cases, the mode of applying electricity may be varied. Leroy d'Etioles employs galvano-puncture, by introducing a fine needle on each side, between the eighth and ninth ribs, until they reach the fibres of the diaphragm. He then establishes a galvanic current between the needles by means of a pile of twenty-five to thirty pairs of plates, an inch in diameter. The diaphragm is thus made to contract, and an inspiration is accomplished: the circle is then interrupted, when the diaphragm, urged by the weight of the abdominal viscera, and aided by gentle pressure made on the abdomen with the hand, returns to its former position, and an expiration is effected. In this way, the two respiratory acts are made to succeed each other, and regular respiration is re-induced. (6.)

We have mentioned in a former volume, a very interesting case, to show the value of electricity in stimulating the nervous system in cases of poisoning by laudanum. (Part IV., Art. 6.) Several other cases of a similar description have been since published, in which the power of this agent in keeping the patient awake was remarkable. Dr. Page, of Valparaiso, has used the same means in a case of poisoning by a large dose of powdered cubebs. The patient took half an ounce of this drug on going to bed, and was found next morning with his face red and swollen, lips dark purple, veins of the forehead and temples turgid, eyes rolling upwards and injected, with the pupils contracted to a point, respiration very slow, short, and gasping; and with all the other symptoms of comatose sleep. Every method that could be thought of to rouse him was tried in

vain; he soon returned to the same state of insensibility, and death seemed to be inevitable. In this case, Dr. Page tried the electro-magnetic battery with success. With an assistant rapidly rotating the wheel, he applied the balls at first to each side of the neck and ran them down behind the clavicles. The arms and body now moved convulsively, but the patient lay as unconsciously as before: but on applying one ball over the region of the heart, and the other to a corresponding point on the right side, the patient opened his eyes widely, his head and body were thrown convulsively forward, and he groaned. He again sank back into his former state, but on applying the balls to the same regions, he became conscious, and ultimately recovered. Dr. Page in this case used a large horse-shoe magnet mounted upon a stand, in a vertical position, with an *armature*, fixed upon an axis between the poles so as to revolve in front by means of a wheel; but a much more portable machine is now made by most surgical-instrument makers, and which ought to be in the possession of every general practitioner. That used by Dr. James Russell, in a case of poisoning by laudanum, in King's College Hospital, would be more portable and convenient than the one used in this case by Dr. Page. In the case of Dr. Russell's, the efficacy of electricity was equally striking: it was that of an infant which had taken twelve drops of laudanum four hours and a half previously, and on admittance into the hospital, was in a state of insensibility, surface cold and exsanguine, pulse imperceptible, and breathing only at intervals of half a minute; in a short time the child seemed to be quite dead. By means of galvanic shocks passed through the body, however, it was resuscitated. An electro-dynamic apparatus was employed, one pole being placed over the upper part of the cervical region of the spinal column, and the other over the cuniform cartilage of the sternum. The greatest benefit resulted almost immediately. Rapid action of the diaphragm followed each application of the poles of the battery; a few short inspirations being drawn, followed by a deep breath. Whenever the breathing flagged, the same means were resorted to; and eight hours and a half after the laudanum had been taken, respiration became established. The child ultimately died; but not before the efficacy of this remedy had been fully proved. (7, 8.)

The treatment of phosphatic depositions in the system has been referred to by us in Part IV, Art. 12, and Part VI, Art. 57. On such an interesting subject, however, we cannot help bringing before the reader any fresh suggestions and corroboration of former statements, which may come under our notice. The treatment of phosphatic deposits consists chiefly in changing the character of the urine from an alkaline to an acid excretion; a much more difficult thing to accomplish, than to change it from being acid to alkaline. Mr. Ure first pointed out, about a year and a half ago, that when a certain portion of benzoic acid, or of a soluble benzoic salt, is introduced into the human stomach, a remarkable change takes place in its passage through the kidney: the urine becomes possessed of an acid peculiar to the urine of the horse, cow, and other graminivorous animals, and to which Liebig has given the name of *hippuric* acid. The uric acid becomes, in short, wholly superseded by the hippuric; and the peculiarity of this latter acid is, that when it combines with the soda, ammonia, and potash existing in the animal fluids, it makes them very soluble. Thus, the hippurates of soda, ammonia, and potash, are easily soluble, while the urates are not so. Mr. Ure has since published an interesting case on this subject, which clearly shows the value of this mode of treatment. The urine was very offensive, emitting a pungent ammoniacal smell, alkaline to litmus, and effervescing briskly on the addition of a few drops of hydrochloric acid; almost as soon as discharged, it threw down a white flocculent sediment, consisting of phosphate and carbonate of lime; it did not afford any uric acid. The patient took ten grains of benzoic acid twice a day, and gentle aperients, and was ordered to live well, but plainly. The urine soon became quite clear and natural in all respects, and acid to litmus. On a recurrence of the alkaline deposit, the common routine of practice was tried, in order to see what effect it would produce: nitric acid, in full doses, three times a day, with an opiate at night; hydrochloric acid, sulphuric acid combined with sulphate of iron, bark, tartaric acid in conjunction with sal-ammoniac, were in turn freely administered, but to

no purpose, for the urine continued alkaline and loaded with white sabulous matter. On resuming the benzoic acid, the effect was equally beneficial as at the first. Here, therefore, we find a patient in the prime of life, stricken with slow consuming disease, complaining of languor and lassitude, progressively losing flesh and strength, with his urine throwing down a white starch-like sediment, and decidedly alkaline. In such a case, benzoic acid will be found invaluable in changing the nature of the urine, and consequently in obviating the irritation which such urine occasions n the membranous surface with which it comes in contact. (9.)

We believe that few diseases have been more confounded with each other than inflammation and the different forms of neuralgia. How many patients have been bled, blistered, and salivated for neuralgia under the false idea that there existed severe inflammation, when probably a good dose of morphia would at once have given relief, and thus pointed out, in some measure, the nature of the affection. This is especially applicable to cases of neuralgia on the surface of the chest and abdomen. Dr. Bird points out that the same mistake is often made in some forms of neuralgia depending on uterine irritation. The uterus occasionally becomes exceedingly painful a few hours or a few weeks after labour or miscarriage, and this pain may extend over the whole abdomen, attended with a suppression of the lochial discharge, and a disordered state of most of the functions of the body, giving rise to symptoms which are often mistaken for puerperal fever and peritonitis. We shall generally be able to distinguish the true nature of this affection by the following symptoms: the pain comes on in paroxysms, the patient often complains even before the abdomen is touched, and sometimes she will bear considerable pressure when her attention is attracted to some other part; she has great depression of spirits and a general disposition to hysteria. (10.)

M. Ricord has perhaps watched the effects of iodide of potassium on the system as much as any one, and he has drawn up a set of excellent remarks on the subject, which ought to be well known by every practitioner who is in the habit of using this valuable drug. The skin seems to be the most susceptible of its influence, and during its exhibition almost every cutaneous affection may be simulated. Salivation also is a common effect of this medicine, resembling more the ptyalism of pregnant women than that from mercury; no inflammation or ulceration being present; no taint of the breath, and no enlargement of the salivary glands, as when mercury is exhibited. The kidneys are remarkably acted upon by this medicine, as much as from thirty-five to forty pints of urine being passed daily in one case under its influence; and this enormous secretion ceasing when the medicine was discontinued. The mucous membranes are also acted upon: that of the eye may become injected and tumefied; the nose may seem to be stuffed as from coryza, though unattended with sneezing. The genito-urinary organs are among those which are most susceptible of the influence of the iodide of potassium. An old blennorrhœa will frequently be aggravated. Another effect of this medicine is said to be, to cause the determination of diseased action to the skin, and hence it may prove valuable in cases of measles and scarlatina, when these affections are unattended with much fever; and even in bad cases, it is said to induce a healthy reaction under the most desperate circumstances, in doses of one or two grains every twenty-four hours for three or four days, according to the age of the patient, dissolved in sugared water, and given as an ordinary drink. This action of the iodide may even be assisted in cases of scarlatina, by the external application to the chest, of the compound tincture of iodine, diluted with three or four parts of water. (11.)

We wish to call the attention of the profession to the use of sub-nitrate of mercury in cases of tetanus. We do not recollect any cases in this country in which this medicine has been tried, but from the report of a case by Dr. Bauduy, of Cuba, we should think that its use would be attended with advantage. In this case, which was caused by a small splinter being driven under the integuments of the left thigh, the wound was freely dilated, and the actual cautery applied, and next morning ten grains of the sub-nitrate of mercury administered. This medicine is found to act powerfully as an emetic, cathartic, and dia-

aphoretic; and in traumatic tetanus, Dr. Bauduy says that its effects are often wonderful. The dose may be repeated in a day or two, according to circumstances. (12.)

Although paralysis of the muscles, those of the face, for example, seldom exist without some organic lesion, yet we sometimes have reason to believe that it is truly functional, and unattended with any particular disease. In such cases we shall find strychnine of value; and we think that its powers have been miscalculated, on account of the indiscriminate use which has been made of it. Even when the paralysis is originally owing to some lesion or effusion, that cause may have been remedied, and nothing remains but a continued inability on the part of the muscles to regain their powers. Here, then, is a case in which strychnine would be of great use, as well as when the paralysis is strictly functional. When the face is the seat of the affection, the strychnine may be applied to the cuticle in the following way:—About one drachm of a solution containing about three grains of strychnine to an ounce of alcohol, may be applied to each side (when both sides are affected), three times a day, and the absorption assisted by friction; when only one side is affected, it will be sufficient to confine the application to the muscles implicated. In a case reported by Dr. Joslin, of New-York, this was persevered in for about two months, with success. A blistered surface renders the effects of the application more powerful. (14.)

If Mr. Benson's method of preventing lead colic in white-lead manufactories be found, on a lengthened trial, to be successful, we should recommend its adoption in all other cases where the same poison is used by workmen. It has long been regretted that colic is so prevalent in these white-lead manufactories. Mr. Benson saw a statement some time ago, that in France, "sulphuric lemonade" was very successful in preventing the prevalence of this malady. He has therefore been trying a mixture of treacle-beer, sulphuric acid, and bicarbonate of soda, for his workmen, who were allowed to drink it at pleasure. The formula for preparing this sulphuric beer is given at page 49; and it will only be necessary to add, that it has completely banished this painful affection from the premises. It is supposed that the highly poisonous carbonate of lead is by this means converted into the inocuous sulphate. The addition of soda gives a pleasant briskness to the beer, but is not added in sufficient quantity to neutralize above one half of the sulphuric acid, so that quite sufficient of this remains to convert the carbonate into the sulphate of lead. (15.)

We have before alluded to the occasional value of iodine in hydrocephalus; and have, since our former notice of this medicine, tried its efficacy in several cases in our own practice; and, although we should hesitate to place that confidence in it which Roeser, Fluder, and others, seem to do, we think it may prove useful in some cases, where disorganization has not proceeded too far. Dr. Christie has published a case in which it seems to have acted with advantage; it was the case of a child eight years old, which had been ill a week, and had an attack of convulsions the previous evening; the symptoms altogether seemed to indicate acute hydrocephalus. Venesection, calomel and jalap, and evaporating lotions, were had recourse to, besides other remedies. The disease, however, advanced, and convulsions again recurred. Two grains of iodide of potassium, with half a grain of iodine were now given every four hours, and the head rubbed with a weak ointment of the biniodide of mercury. For some days no improvement took place, but ultimately the disease gave way, and the child recovered. We said that we had tried the same means in our own practice: the result, however, has been only in two cases favourable; in several others we have thought that the symptoms became improved for a time, and felt sanguine of success, but were disappointed. (16.)

In the same disease, where water has accumulated so as to be evident by its fluctuation, and the increased size of the head, we have many examples of relief being afforded by drawing off the liquid: one is given in our 17th Article, in which eleven ounces were drawn off by the first operation. The child had been the subject of frequent convulsions before this relief was afforded it, which did not again return for eleven weeks. The head re-filled in some measure in about four weeks, and was again emptied. From some mismanagement on the part

of the mother, the disease gained ground eleven weeks after the first operation, and the child died, but not before the tapping was clearly proved to have acted beneficially, and in one respect very remarkably, viz., by making the child sensible to light, which had not previously been the case. (17.)

In a case of diabetes mellitus, in the Hotel Dieu, in which the man passed fifteen quarts of urine daily, of a highly saccharine quality, the ioduret of iron in doses of five grains four times a day, combined with the usual animal diet recommended in such cases, seemed to have a remarkably good effect. Besides the ioduret of iron and animal diet, he took a bottle of claret daily, and a flask of Bagnol's wine. (18.)

We pointed out in our last volume, the use of potatoes in sea-scurvy, and we have again an opportunity, through Dr. Baly's interesting paper, of calling the attention of the profession to the subject. The potatoe has been known for years past to be useful in this disease, and is referred to in works on the subject, but it has not until lately been sufficiently impressed on our minds that this vegetable ranks very high as an anti-scorbutic. Dr. Baly, by its use in the Milbank Penitentiary, has almost completely banished the disease which was seldom absent from the prison; and concludes from a number of observations, that from three to six pounds of potatoes weekly ought to form part of the dietary of all prisons, workhouses, pauper lunatic asylums, and similar institutions. It is remarkable that this useful vegetable, considering its cheapness, has not been more generally used in these institutions. In some of our largest pauper asylums, where the food has not been at all deficient in quantity, and where everything seems to be conducted in the best manner, the potatoe has been given in too small quantity, and the consequence has been the existence of scurvy. In other places, as in the Stafford County Goal, where the quantity of food is less, but where the potatoe is allowed in larger quantity, the disease does not appear; and if we may judge from facts, we feel persuaded that the recent resolution of the magistrates of the city of London, to exclude potatoes and other succulent vegetables from the dietary of their prisons (with the exception of a small quantity contained in a pint or two of soup allowed weekly), will prove prejudicial to the health of the inmates. The anti-scorbutic virtue of the potatoe, various fruits, succulent roots and herbs, consists in one or more organic acids being dissolved in their juices, such as the citric, tartaric, and malic acids. The potatoe has been found, according to Einhoff, to contain the tartaric acid combined with potash and lime. According to Vanquelin, it is the citric acid which the potatoe contains. We may bring forward the evidence of Liebig in explanation of the anti-scorbutic virtues of this and most other non-nitrogenous articles of diet. The salt which sailors take so largely, affords an abundant supply of alkali to the blood, while the chief part of their diet consists of non-nitrogeous food. The consequence is, that the oxygen taken into the system acts exclusively on the tissues of the body, and when long continued, is almost certain to end in scurvy, the salt assisting in producing these rapid changes. When more nitrogenous articles of diet are substituted, they become acted upon by the oxygen instead of the tissues of the body; hence, the good effects of vegetable acids, fresh vegetables, sugar, wine, beer, wort, treacle, potatoes, &c., all of which contain more or less nitrogen. (19.) M. Irven recommends the tincture of cantharides as a remedy in cases of scurvy, in doses of from ten to twenty drops three times a day, increasing the quantity taken in twenty-four hours to about eighty drops. (3.)

An important measure has lately been adopted in Guy's Hospital, namely, that of devoting certain wards for the study and elucidation of those diseases of the kidneys which are attended with the secretion of albuminous urine. We hope the same measure may be adopted as a means of studying many other diseases, and the best mode of treatment, as it will chiefly be by collecting in this way a great number of facts, that the safest improvements in medicine may be expected to arise. *Mercury*, *Elaterium*, and *Antimonials*, seem to have formed the three leading indications of treatment, as far as medicine was employed, and the value of each of these seems to have been tested: not, however, that one was always given to the exclusion of the others, for we find that in many

cases treated under the head of "*Treatment by Elaterium*," that the third mode of treatment, by *Antimonials*, was also combined. The mercury, elaterium, and antimony, however, constituted the principal medicines which were employed, and each seems to have been fully tried. Antimonials and elaterium, however, seem to have been used at one time or another in most of the cases reported. In the case which we have published, as an example of the treatment by *mild mercurials*, we find that two grains of hydrarg. c. creta, one grain of p. scillæ, and five grains of ext. papaveris were given every night at first, and afterwards half a grain of pulv. digitalis, a quarter of a grain of pulv. scillæ, and one grain of pil. hydrarg. three times a day, the digitalis being afterwards omitted. But we perceive that from the first fifteen minims of antimonial wine was given three times a day; and afterwards one-sixth of a grain of elaterium combined with two grains of ext. papaveris, was administered. The elaterium was afterwards diminished to one-tenth of a grain, combined with two grains of ext. papaveris, three times a day. So that, in this case, we have a combination of all the three kinds of medicines, mercury, elaterium, and antimony; and judging from all the cases published in the last number of Guy's Hospital Reports, we should say that in most cases of albuminous urine, accompanied with a swollen and puffy face, anasarca more or less extensive, dry skin, alkaline urine, with precipitation of albumen by heat and the addition of nitric acid, that a combination of treatment consisting of small doses of mercury, with antimonials and elaterium, judiciously combined, is the best that can be adopted. (20.)

The treatment of pneumonia in children has been ably treated of by Dr. Willis, but we cannot subscribe to his opinion that in the treatment of this affection in children, depletion by blood-letting holds the first rank as a curative agent. There are but few cases of pure idiopathic pneumonia in these subjects; they are almost invariably brought on or attended with chronic bronchitis, in which disease, as well as in pneumonia, it is becoming more and more acknowledged that we have almost every advantage in the use of tartar emetic, without the dangerous consequences which so often follow the loss of blood in children. There are no doubt many cases where moderate bleeding by leeches might be called for, and where the strength of the patient might counteract its prejudicial result, but we should say that in no case ought copious bleeding to be resorted to with more caution than in young children, in whom there is such strong disposition for the blue stage of asphyxia, to follow. We should therefore, hesitate how we adopted Dr. Willis's practice in this respect: he will often take away four ounces of blood by venesection, and if the symptoms are not relieved in a few hours, apply four or six leeches beneath the scapulæ, in a child of two years old. We repeat that we should be much more moderate in our use of the lancet and leeches, and trust rather to the antimonial treatment which Dr. Willis properly describes as being more especially beneficial when the pneumonia has developed itself out of previous catarrhal symptoms, or in which it supervened on measles, or came on in the course of hooping-cough. In such cases, antimony given in doses of a quarter of a grain, to a child two years old, repeated every ten minutes till free vomiting is produced, and afterwards continued every two or three hours for forty-eight or sixty hours, has often appeared to be of the most essential service; and we may add, that a very important and valuable addition to this medicine in our own practice, has been the tincture of lobelia, in doses of five, ten, or twenty drops. But this medicine will be found more especially useful when the attack commences with bronchitis, and threatens to end in asphyxia. (21.)

In the treatment and prevention of gravel, calculus, and gout, we find many excellent directions from the pen of Mr. Jones chiefly founded on the views of Liebig. These affections are so frequently the result of an excess of uric acid in the system, that to remedy this diathesis is often sufficient to prevent the former. One important indication of treatment throughout these cases, is to promote the action of oxygen on the system, by which the excessive formation of uric acid is counteracted; the oxygen changing it into urea and carbonic acid. This may be accomplished in various ways, and first, by *exercise*, which if taken in moderation, assists materially in the absorption of oxygen into the system, but if carried to excess may depress the vital powers, and thereby encourage the

formation of an excess of uric acid, the very substance which we wish to diminish. Other means will materially assist in the formation of oxygen: the avoidance of too much sleep, and hot rooms—the exhibition of the different preparations of iron, by which the amount of red particles is increased. Another very important means of accomplishing the same object is *food*. This may even rank above exercise in many respects. The great principle to be had in view, is *to diminish the non-nitrogenous principles of the blood*. Liebig has shown "tha the substances which contain no nitrogen, by combining with the oxygen whic has been inspired, hinder its action on uric acid:" and hence the diet in these cases ought to be such as will not to any considerable extent interfere with the action of oxygen, as nitrogenous articles of diet—a moderate quantity of meat, with a much smaller quantity of bread, the meat of course to be proportioned to the degree of exercise—in short all articles which contain much starch or sugar, are to be avoided in these cases, or given in moderation; as bread, potatoes, rice, apples, pears, and all kinds of fruit, fat, butter, &c. The non-nitrogenous bodies in the blood may also be diminished by certain medicines, which act on the liver, as calomel, aloes, colchicum, colocynth, &c.; and the uric acid may be kept in the ultimate textures in a state of solution by the alkalies. Mr. Jones considers that whenever the uric acid diathesis exists for any length of time, it must necessarily produce a disposition to *gout:* and however unintentional it may have been, we can see that most of the measures which have been recommended for the cure of gout by different physicians, have been such as would promote the action of oxygen in the system. "In the language of Liebig, they have declared that the want of oxygen is the cause of gout, and the promotion of its action the only means of effecting a cure, or of hindering a return of the complaint." Thus, certain circumstances, as excessive eating, sleeping, and want of exercise, constipation, vegetables, and little secretion by the skin, all lessen the amount of oxidation which is necessary to remove certain substances which result from the metamorphosis of the tissues of the body. Liebig's views of gout are "that it is an inflammation in parts in which the usual changes which the oxygen effects are unable to take place, in consequence of an excess of the non-nitrogenous principles in the body; whilst rheumatism or the "universal gout" seems to arise from the changes being checked by the action of cold on the skin." It is an interesting question which has not yet been satisfactorily answered "whether the uric acid is, in the state of health, produced in the ultimate textures, and there undergoes its changes into urea, in which state it is carried to the kidneys by the circulating blood (and the existence of urea in the blood in Bright's disease, and in cholera, is in favour of this view); or whether in the ultimate textures, some other substance is first formed from the tissues, which, when it arrives at the kidneys, is there changed into uric acid, and afterwards into urea in the way that has been pointed out. If this last be the case, the substance out of which the uric acid is formed must exist in the blood." There is no doubt that the one or the other of these states must exist; "either there is an excess of that substance which is capable of producing uric acid when it comes to the kidney's, which is passed during an attack of gout from the systemic capillaries to those of the kidneys, and there gives rise to the excess of uric acid which appears in the urine, or what is perhaps more probable, urate of ammonia itself (formed from the metamorphosis of the tissues) exists in the blood in larger quantities than usual." Whatever view we take of this subject, we arrive at the conclusion that there is a want of proportion between the oxygen and the non-nitrogenous ingredients of the system, and hence our treatment must in a great measure be to proportion the oxygen to the demands of the system. Sleep lessens the quantity of oxygen taken into the system by diminishing the number and extent of the respirations, and sedentary habits act in the same way; excessive eating loads the blood with those substances which must have oxygen to carry them off; by taking acids the uric acid is rendered less soluble; wines are injurious, from the alcohol they contain, and acid wines are doubly injurious, by both acid and alcohol adding to the excess of non-nitrogenous substances, for which the oxygen has a greater affinity than it has for the nitrogenous substances. We find that abstinence assists materially in restoring the proper propor-

tions of oxygen and nitrogen, by adding no fresh fuel, and thus giving the oxygen an opportunity of consuming those non-nitrogenous (carbonaceous) substances, which had been previously so heaped up as to threaten to put an end to all action. Exertion increases the respiration, and thus causes more oxygen to be absorbed, and more action to take place. Purgatives remove the bile, which contains an excess of carbonaceous matter, on which the oxygen would otherwise act to the hindrance of its action on the nitrogenous substances, whilst alkalies and water hold the uric acid dissolved, and promote the changes in the tissues. By these views, the relation of gout to acidity, to uric acid, and oxalate of lime calculi, is most plain. They all arise from the same cause, the want of action of oxygen. (22.)

The inhalation of ammonia gas in certain states of the mucous surfaces, has been recommended by Mr. Smee. When we allow the fumes of ammonia to come in contact with the eye or nose, we are aware of their stimulating property; there instantly follows an increased secretion from the mucous surfaces. When the same vapour is admitted into the mouth, we find that the glottis does not resist its intrusion, and it is found to pass into the innermost recesses of the lungs, and instead of producing disagreeable effects, causes sensations which are extremely grateful. The effect of this inhalation is to cause the dry passages to be lubricated with an increased secretion of mucous, and the previously inspissated phlegm is now loosened and easily expectorated. This seems to be a valuable suggestion in many cases of chronic bronchitis, where we are in the habit of combining the sesquicarbonate of ammonia with the several expectorants. The liquor ammoniæ in common use, is generally strong enough, but it is perhaps better to commence with a weaker solution. If the liquid be placed at the bottom of a common bottle the patient may apply his lips to its mouth and draw in his breath, when he will inhale a certain quantity. Two, three, or four inspirations will in general be sufficient at one time, but this may be repeated several times a-day. A more convenient apparatus, however, is the common inhaling bottle, sold in most shops, and now generally used for the inhalation of the vapour of iodine, conium, and other medicines. Since the publication of Mr. Smee's paper, we have tried the same thing in that peculiar dryness of the fauces which often accompanies affections of the kidneys, and especially diabetes, and we may add that it has been attended with considerable though temporary relief. It may also be used in chronic hoarseness, in a relaxed, swollen, and œdematous state of the mucous membrane resulting from various causes; in cases of incipient cynanche tonsillaris, in syphilitic ulcerations of the throat, in old standing cases of asthma. Of course we need not add that it would be deleterious in all cases where acute inflammation is going on. (23.)

One of the most interesting and curious papers which we have lately seen, is that by Dr. Buckler, of Baltimore, published in the Maryland Medical and Surgical Journal. It is on the subject of Hæmostasis, and embraces opinions, which although supported by striking cases, we feel rather diffident in adopting, till further experience confirms their correctness. If the means used by Dr. Buckler to arrest the flow of blood be found on further trial to act on the general system in the way he affirms, we shall certainly possess an important addition to our remedial powers in many of the most dangerous and most rapidly fatal affections which we have to encounter. The object to be had in view in Dr. Buckler's means of hæmostasis, is to fill any particular limb, or even all the limbs, with blood, by arresting its course through the great veins and branches, and by this means depriving the trunk and the several vital organs of a considerable portion of their blood. This fluid in short is *detained* in the extremities by ligatures placed round them, and the blood is thus arrested; the limbs become gorged, but the body generally contains considerably less blood than usual. This practice, if found successful (and it has been so in Dr. Buckler's hands), will be valuable to prevent hæmorrhage, to relieve inflammatory engorgement in parenchymatous organs, or inflammations of membranous tissues, to remove simple vascular congestion, and to restore the balance of the circulation. The process consists simply in tying a bandage round a limb sufficiently tight to arrest the venous circulation, while the arteries are allowed to pulsate. The

veins thus become swollen, and appear as if they would burst; all the blood they contain being thus as effectually withdrawn from the general circulation as if it had been drawn into a basin. If this be done on all the extremities at once, the skin becomes relaxed, and the pulsations of the heart and arteries weakened; and if the patient have previously been weakened by loss of blood, or by disease, so that the vessels shall be partially empty, we shall then find the skin to pour out the most abundant perspiration; the patient complains of feeling light about the head, of sickness, and weakness; and we shall find the carotids pulsating feebly, and all the symptoms of syncope threatening. There are many cases in which it is very difficult to produce syncope, owing in some measure to the difficulty of the blood being extracted from the brain, from the circumstance of the heart and lungs being so gorged, that the downward current from the brain is prevented; this would be obviated by detaining a portion of the blood in one or more extremities, until our object is accomplished, when we could at pleasure allow the fluid to return to the general circulation. Then again, there are cases in which syncope takes place from the slightest causes, and in which the horizontal position does not remedy the evil with sufficient rapidity, but by compressing the veins of the neck, and allowing the carotids at the same time to pulsate, we may rapidly relieve this state by detaining the blood in the cerebrum: and even when the patient remains in the upright position, this method will generally succeed without placing him horizontal. But the most important object which this means will enable us to accomplish, is to relieve internal organs of congestion, and to assist general or local blood-letting in the subduction of inflammation. In short, according to Dr. Buckler, "hæmostasis accomplishes what no other known remedy is capable of doing. It puts syncope under our control, both as to duration and degree. It is capable of exerting, under given conditions, a more powerful control over the circulation than the lancet, antimony, or digitalis, and controls the heart's action, without exhausting the vital forces, or giving rise to ill consequences, which the protracted use of most of the sedative agents is likely to do. And finally, hæmostasis in the hands of judicious practitioners, must prove a means of saving an incalculable amount of human blood." (24.)

We perceive that the Indian hemp continues to be used by practitioners as a substitute for morphia, and other preparations of opium. We publish a case of neuralgia where it was beneficial. The dose was forty-five drops of the tincture of hemp resin (strength three grains to the drachm) to be given every morning, or oftener when the pain returned. This is but a very small dose, and we suspect will require to be greatly increased before its powers can be depended upon: indeed, Dr. Lynch was prepared to increase the dose to at least double the strength, had not relief been obtained: and this dose might with safety be increased to 120 drops or six grains. (25.)

Dr. Abercrombie has written an interesting paper on stammering: respecting which he has observed a few facts which may lead to a material improvement in the treatment of the affection. Stammerers never stammer in singing; nor when the voice is elevated to a particular pitch, as during conversation in a crowd or in a carriage on a rough road; on the contrary, they stammer when endeavouring to speak when the lungs have become emptied of air or nearly so. Among other indications of treatment therefore, the patient should accustom himself never to speak except with a full and continuous current of air proceeding outwards from the lungs. The affection is not perceived to be owing to any defect in the organs of speech, and if he would speak in that tone of voice as if he were calling to a person at a distance, or in a tone resembling singing or chanting, he would probably find himself considerably improved: and for this purpose, Dr. Abercrombie recommends that the person should read aloud several times a-day from an author whose style is somewhat declamatory. "In doing so he should be made to read in a high-pitched tone, and to stop frequently and take a full breath, so as to have the voice thrown out with a force beyond what is required for ordinary reading or ordinary conversation. With this view, it is necessary to make him stop and take a full inspiration much more frequently than would be required by any other person. In particular whenever

he feels the tendency to hesitate at a word, he is to be taught to stop instantly, take a full breath, and then try it again." (26.)

We have published several papers on the efficacy of the oxide, the nitrate, and the ioduret of silver in different diseases, and especially in those which affect the mucous membrane of the stomach, but we have not seen any cases published previous to those of Dr. Patterson, in which its efficacy in *hooping cough* was remarkable. In this disease it may be given in doses varying from the eighth to a quarter of a grain, according to the age, three times a-day. In the cases related by Dr. Patterson, the cure was complete in about three weeks, but an improvement was visible from the very commencement of its exhibition. This medicine has also been valuable in several other affections in the hands of this physician: in some cases of protracted leucorrhœa its use was combined with alum lotion; and in painful and scanty menstruation, an affection which so often baffles all our remedies, it has been found beneficial. In these cases it is to be given in half grain doses, increased to two grains, twice a-day, during the ten or twelve days previous to the expected return of the menses, and as soon as the patient perceives the accession of the discharge, and while it continues, she is to take the ioduret three times a-day, but as soon as it declines she should omit the medicine altogether for a fortnight. This is one of the most common and troublesome affections which we meet with, and we shall be delighted if future reports of the activity of this medicine in this disease confirm its value. (28.)

The dread of discolouration of the skin produced by the continued use of this medicine has been kept constantly in view by practitioners, and various experiments have been instituted to counteract such a deformity. We have given it in very large doses, and continued its use for a considerable period, and we never yet noticed this so much dreaded appearance in our own practice; it is well, however, to be aware of the circumstance, and as far as possible to avoid it. Dr. Graham, in one case of fourteen years' standing, has succeeded in changing the disagreeable blue tint to one of a brownish hue, by using the hydriodate of potass rubbed up with tinct. saponis, as an external application. It was well rubbed into the face night and morning, and the patient exposed himself as much as possible to the action of the sun's light. It was then used in combination with the ungt. hydarg., and afterwards in the form of a strong solution in water. (29.)

M. Mialhe has discovered that hydrated protosulphuret of iron, a perfectly inert substance, instantly decomposes corrosive sublimate; protochloride of iron and bisulphuret of mercury, two inert substances are formed. This preparation will probably also be found equally efficacious as an antidote to other poisonous salts, as those of copper and lead. (30.)

Dr. Katona, of Borsoder, has been lately trying rather a novel experiment, viz., inoculating children with the fluid taken from the vesicles of measles, or with a drop of the tears of a patient in this complaint, and out of 1122 patients inoculated in this way, in a very severe epidemic in 1841, only seven per cent. failed; all the rest had attacks of measles in a very mild form, and did well. Dr. Elliotson some time ago suggested the same experiment, but we forget whether he brings forward cases to prove the utility of the practice. Dr. Horne, of Edinburgh, in his "Clinical Facts and Experiments," published in 1758, refers to the same subject, but we think he failed, probably from the way which he inoculated, Instead of taking the secretion from the vesicles or from the tears, as Dr Katona did, he used a little blood taken from the exanthematous patch; many of his cases failed altogether in taking effect, and in many others the disease was as severe as when taken in the usual way. On the other hand, Professor Spranza, of Mantua, inoculated more recently several individuals with blood drawn in this way, and succeeded in all his cases. Dewes and Chapman, in their trials of the same method in the Philadelphia Dispensary, in 1801, failed in producing the same effect. A similar process of inoculation was some time ago attempted for varicella, but from careful experiments it seems evident that genuine lymphatic or infantile chicken-pox cannot be propagated by inoculation. (31.)

Breathing an atmosphere impregnated with the fumes of saltpetre has been found beneficial in some cases of asthma: immerse thick porous paper in a solution of this substance, and hang it up to dry. At the approach of the paroxysm, inhale the vapour by burning it in a room, or smoking it in a tobacco-pipe. (34.)

Dr. R. H. Allnatt draws our attention to the use of creosote as an injection in leucorrhœa. His formula is 20 minims of creosote with two drachms of solution of potash in eight ounces of water, to be used as an injection three times a day. From the effect of this remedy on other mucous surfaces, and its power in checking excessive suppuration, we think it may prove valuable in this troublesome disease. (36.) M. Steenkiste, in the same affection, has been trying iodine injections with advantage. His formula is four scruples of iodine, sixty of alcohol at 25°, and 125 of common water, of which about 30 scruples are to be thrown up the vagina, and repeated next day if necessary. The symptoms will at first be aggravated, but will be found eventually to be mitigated if not cured: in one case the vagina was filled with charpie soaked in a solution of iodine. (37.)

Some time ago Dr. Copeland pointed out the value of turpentine in interna hæmorrhages, and since that time many practitioners have been in the habit of using it in these cases; but we think its value is not yet duly appreciated, and we are glad to see it so highly extolled by Dr. Willshire, who regards it as peculiarly valuable as an astringent when absorbed into the circulation. Its effect on the capillaries is remarkable. In cases of hæmoptysis it will often succeed in arresting the discharge of blood when other remedies have failed, and it has one great advantage, namely, it may be given both in the active and passive forms of the disease. In the more active forms, if given in large doses, it reduces the powers of the heart and constringes the capillaries, and in the more passive forms, if given in smaller doses, it strengthens the minute vessels and alters their powers so as to restrain their sanguineous effusion without lessening the vigour of their vital power generally. (39.)

There is perhaps no subject of operative surgery which has lately engaged our attention, more interesting and important than that of removing diseased ovaria from the abdomen, by the large peritoneal section from sternum to pubes. A succession of successful cases published by Dr. Charles Clay, of Manchester, and Mr. Walne, of London, added to those previously recorded by Mr. Lizars, of Edinburgh, and Dr. Macdowal, of Kentucky, places this among the legitimate operations of surgery, and shows the almost frightful extent to which the abdomen can be exposed with impunity. In Art. 51 will be found a series of observations by Dr. Clay, which cannot fail to be interesting to the whole profession. For many years, two operations have been recommended, but seldom practised, for the removal of diseased ovaria—one called that by the small incision, or the minor operation, the other by the large incision, or the major operation. In the minor operation, the incision is extended only a few inches through the abdominal parietes, through which the ovarian sac is punctured with a trocar, and when emptied of its contents, the sac itself is drawn through the incision, and its pedicle tied and separated. The major operation consists of an incision extending from the sternum to the pubes, so as to expose the whole tumour at once, and, after carefully removing all adhesions, to tie the pedicle and remove the diseased mass entire. We cannot but agree with Dr. Clay in his observations as to the relative value of these two operations, when he says, "if it were positively certain that the ovarian tumour was composed of only one, two, or even three cysts, provided they could be defined and punctured, if it were equally certain that no adhesions existed beyond the pedicle, and if we could be assured no part of the tumour was consolidated, then I should say the minor operation of Mr. Jeaffreson would be the only justifiable one; but if any of these objections exist, I am decidedly of opinion that we had better let the patient alone. It would be difficult to puncture more than one cyst; it would be impossible to draw the cyst through a small opening if adhesions existed, without doing irreparable mischief; it would be equally impossible to extract through a small opening unpunctured smaller cysts, or a

portion of consolidated tumour. Now, let the reader suppose a case of more sacs or cysts than one or two, or of one with a large consolidated mass with or without cysts, or one with adhesions though not extensive, and then let him imagine himself employed in bringing away this tumefied mass by dragging it through a small opening of one and a half or two inches (or even three and a half inches according to Dr. Blundell). And yet all these circumstances may, and actually have occurred, and ought to force us to resort to the major operation, which has not only been much more successful than the other, but enables the surgeon at once to meet every difficulty." By this operation "there is plenty of room for cutting asunder the adhesions, however numerous, the whole mass may be removed entire without puncturing the cysts, thus avoiding the disagreeable circumstance of the fluid of the cyst escaping into the abdominal cavity, perhaps one great cause of death in the minor operation; and lastly, we have now abundant proof that peritoneal inflammation is not a whit more excited by a bold opening than by a smaller one. It must also be borne in mind that the tearing away of the adhesions, unless very recent ones, is entirely avoided by the operation of the large incision." We have carefully perused all the cases published of late, and we cannot but agree with Dr. Clay; indeed the operative surgery of the abdomen is probably in its infancy, and we may yet live to see this cavity subjected to much more extensive manipulation than at present we dare venture to express; at any rate, these successful extirpations of diseased ovaria, and extensive incisions through the peritoneum, prove that there is not really so much danger from wounds of this membrane as has been generally supposed, and that a large incision is no more dangerous than a small one; and they prove a still more startling fact, that these operations are far more relatively successful than those which are called the capital operations of surgery, such as lithotomy and amputation. (51.)

The removal of stone from the bladder, by the operation of lithectasy, as described by Dr. Willis, has hitherto attracted but too little notice. Perhaps it is that a new kind of practice is looked upon with suspicion till a sufficient number of successful cases bear testimony to its utility and safety. The opinion seems to be gaining ground among our best surgeons, that the dangers of lithotomy consist in the too free use of the knife in the deep incisions, and that the most successful operators have been those who have made free external, and very small internal incisions, trusting more to a certain degree of stretching, or dilatation, in order to enter the bladder, and thus preserve that organ as free from injury as possible. It is probably for the same reason that lithectasy may some day prove a more useful improvement than is now generally acknowledged. It is well known that Sir Astley Cooper, in the year 1819, performed this operation, at the suggestion of Drs. Neil and James Arnott. It consists simply in opening the urethra upon a grooved staff, in the mesial line, behind the bulb, to the extent of a few lines, and then making gradual dilatation by means of the fluid pressure dilator of Dr. Arnott, "consisting of a cylindrical tube of silk, lined with the thin gut of a small animal to make it water-tight, and fixed upon a canula which traverses its axis, and having attached to its outer end a syringe guarded with a stop-cock, by which it may be forcibly distended with water or mucilage." This instrument, when empty, exceeds but little in size the bulk of the canula or catheter with which it is connected, and is therefore easily introduced along the groove of the staff into the bladder, and when there it can be gradually distended to its utmost limits. We think that Mr. Elliot makes some useful suggestions with respect to this operation. He thinks it well, previously, to accustom the urethra to the presence of a foreign body, by the use of bougies, gradually increased in size, so as at the same time to produce a certain degree of preparatory dilatation. He also recommends that the external incision should be free, "since if the prostate were unfit to undergo the process of dilatation, either from great rigidity, as is frequently found in old subjects, or from morbid irritability, the operation could be at once completed by lithotomy." Mr. Elliot also suggests various improvements in the dilator, as, that it should be cylindrical and not tapering towards each end, as it will then preserve its situation more easily when introduced," &c. We think his suggestion a very proper one,

that the dilatation should be not only gradual, but at intervals of a quarter of an hour at a time, instead of being continued for thirty or forty hours. It seems surprising that these parts can be dilated so completely, so easily, and so safely, and yet that surgeons have not tried the practice more generally. Mr. Elliot states, that although he continued the dilatation for twenty-five hours, he has no doubt that a sufficient degree of dilatation was accomplished in three hours, since no additional fluid was injected after that period, and he could easily introduce two fingers along with the scoop into the bladder, and if necessary could have extracted a stone as large as a hen's egg, or four and a half inches in circumference, the size of the instrument. Mr. Elliot remarks, that his patient, from beginning to end was never in danger, that "the presence of the dilator effectually prevents any oozing, as well as the injurious contact of the urine with the raw wound. There was no chance of shock, no risk of peritonitis, infiltration of urine, inflammation of the veins of the neck of the bladder, nor any of the grave sequelæ that too often supervene on the operation of lithotomy." (52.)

With respect to the extent to which the deep incisions in lithotomy may be carried with safety, enough has been said and written on both sides of the question to confuse the judgment of even an experienced surgeon; most eminent men are here opposed to each other. We believe, however, that of late, with the exception of Mr. Syme and a few others, the most numerous and eminent converts have been to the opinion that, however extensive the external incision may be, that through the prostate should be very limited. Mr. Martineau has always been considered a great authority on this subject, and although it has frequently been represented of him—and among other eminent writers, even by Mr. Samuel Cooper—that he made his incisions into the bladder rather extensive than otherwise, we have now the authority of an eye-witness, Mr. Dalrymple, whose father we believe was Mr. Martineau's colleague in the Norwich Infirmary, that such was not the case, but that his deep incisions were very limited. But if the surgeon be of the opinion that such incisions ought to be of small extent, he cannot always be convinced while his knife is at the bottom of a deep wound, how far his incision may be carried: he cannot be certain whether the knife will divide the parts in question to the extent of four, five, or eight-tenths of an inch; and it is certain that in lithotomy, the parts have been found after death to have been divided in many directions instead of always in the right one. Even the gorget, which is on many accounts a bad instrument, cannot give any certainty in this respect. In our 53d Article, will be found the description of a staff by Mr. Bryan, which we think very likely to prove a useful improvement, in regulating, with precision, the size of the deep internal wound. This staff is straight to within an inch and a half of the end, which is curved, so as to pass readily through the urethra into the bladder; but the groove, instead of being on the convex is on the *concave* side, so that when the instrument has entered the bladder, it is to be turned with the point downwards and outwards, corresponding to the intended incision through the prostate. The knife is furnished at its extremity with a slight shoulder, so as to run readily to the end of the groove, where it is stopped, and thus limits the incision very accurately: the point of the knife cannot get any further, so that the bladder, even if empty, is in no danger of being injured, and the operator need not fear either going too deep, or not deep enough; the end of the groove will be a safe guide to him. (53.)

We think the operation for cleft palate has been improved by an ingenious suggestion of Mr. Maclean, of Dublin, and carried into effect by Sir P. Crampton and Dr. Cusack. It consists in the mode of tying the ligatures, a part of the operation of acknowledged difficulty. After the ligatures are passed through the edges of the fissure and brought out at the mouth, their ends are to be passed through a small perforated metallic bead, such as are used in making purses; the bead is then to be pushed down along the ligatures, closing them as it descends, until it touches the approximated edges of the wound; it is then to be compressed by a pair of strong blunt pointed forceps, and the ligatures are thus firmly secured, without a knot at the required degree of tension. This ingenious method of securing the ligatures might be extended to other surgical ope-

rations where a knot would be difficult to tie, such as applying a ligature to hæmorrhoidal tumours and polypous masses, which are situated in parts difficult of access; in short, with some modifications, we have no doubt the principle might be made exceedingly useful in many surgical operations where parts to be tied are deep-seated, in the same way as we should apply the double canula in polypi of the womb, &c. (55.)

In the treatment of hydrocele by injection, there is often considerable time lost during its cure by the length of time occupied in the absorption of the injected fluid. The inflammation may subside in a few days, but a month often elapses before the liquid is absorbed. M. Lisfranc hastens the cure by making a second puncture on the sixth day, or when the inflammation has ceased, for the purpose of emptying the tunica vaginalis, thus sparing nature the task of absorption. (56.)

The case of aneurism of the external iliac artery published by Dr. Bellingham, is interesting in two points of view. It is seldom, if *ever*, that the external iliac artery has been tied for an aneurism of this vessel, or in which a ligature has been applied successfully so closely to the bifurcation of the common iliac, and proves that, although the contiguity of a neighbouring branch may retard, it does not prevent the adhesive process from closing up the vessel. It proves what Mr. Travers says in the sixth volume of the Medico-Chirurgical Transactions, "that after the proper application of the ligature, the adhesive process is established in an arterial trunk in equal time, whether its branches are contiguous or remote." Indeed, as Dr. Bellingham says, "the recovery of the patient in this case shows that a large artery may be successfully tied at the distance of half an inch from the point at which a branch nearly of equal magnitude comes off." Another circumstance connected with this case is the value which attaches to Mr. Trant's aneurism needle, which instrument has not been sufficiently tested by the profession. It will, however, be found of essential service where a ligature has to be applied to any deep-seated vessel. When the instrument, armed with the ligature, has been passed under the vessel, a spring hook is gradually projected from the handle by the operator, and passes direct to the point of the needle, where it takes hold of the ligature, which is then drawn up from the bottom of the wound by the surgeon and tied in the usual way. (57.)

Some of the most troublesome and incurable affections which the practitioner has to manage, are those of involuntary seminal discharges brought on by excessive masturbation, or a too great indulgence in sexual intercourse. Mr. Phillips has published a very interesting paper on this subject, bringing forward the views and practice of Lallemand in his "Observations on the diseases of the genito-urinary organs," published some years ago, but which have never been extensively known by British surgeons. By the constant abuse of the sexual organs, whether by masturbation or by indulging too freely in sexual intercourse, there is often set up a continued irritation in or about the ducts connected with the testicle: in some cases this irritation may have its origin in the rectum, and is thence communicated to the seminal ducts, but, from whatever cause this irritation may be produced, it gives rise to more suffering than we have hitherto supposed, and we are afraid that it is an evil more extensively prevalent than we had any suspicion of: since the publication of Mr. Phillip's papers, he has been consulted by numerous patients on the subject, but chiefly by medical men and medical students, who may be supposed almost exclusively to read the medical journals. Mr. Phillip's mode of treatment is simply to find the irritable part and then to apply the lunar caustic to it. He examines the urethra with an exploring instrument, and for this purpose he uses an elastic catheter, with which the point of the urethra which is most sensitive is accurately noted. The instrument must be passed on carefully until urine passes along it. Observe how far it has penetrated, and having noted this, you must arrange your caustic apparatus so that it shall not reach so far by an inch, because the prostatic portion of the canal is not commonly implicated in the irritation. The point upon which the caustic is to be applied is, as near as practicable, about the region of the orifices of the ejaculatory ducts." It often happens, however, that the whole or several parts of the urethra are very sensitive, and it becomes

difficult to know from this circumstance which is the most tender and irritable; but when, for example, it is found that it is seven and a half inches from the orifice of the urethra to the bladder, which is known by the urine passing along the catheter, and when it is further seen that an acute pain is felt at a little more than six inches, we may confidentially cauterize the space between the sixth and seventh inches, satisfied that the orifices of the ejaculatory ducts will not escape. (58.)

Mr. Bennett Lucas recommends a mode of treating gonorrhœa, which, although not new, is not much practised; and it is only from the well known practical character of Mr. Lucas that we have ventured to publish his peculiar mode of treating this affection, well knowing that his opinion may be looked upon with some confidence. It is only to the first stage of the disease that this treatment is adapted before the inflammatory stage has commenced; in gleet it will fail altogether. It consists in compressing the urethra with the left hand about two and a half inches from the orifice, and injecting up to this point a very strong solution of the nitrate of silver in the proportion of twenty grains to the ounce, and often as strong as thirty grains to the ounce. This must act by destroying the specific virus and substituting in its place a simple inflammatory action. (59.)

It has been too frequently the custom for surgeons to amputate the leg below the knee in cases where neither Mr. Hey's amputation between the tarsus and metatarsus, nor that of Chopart's, which leaves only the astragalus and os calcis, could be of use. So long as the disease exists in the foot below the astragalus and os calcis, Chopart's operation would be invaluable, and when it exists still lower down, that of Mr. Hey's must be equally, if not more so, but even where the astragalus or os calcis, and even where the ankle joint is implicated, amputation of that joint, and taking off the diseased extremities of the tibia is now practised with success; thus enabling the patient to walk with very little artificial assistance, and to a very considerable extent diminishing the danger of amputation below the knee. When we consider that the diseases which have hitherto required amputation of the leg below the knee seldom affect the leg itself, because when they do so, amputation above the knee is generally required, we shall see at once that an operation by which the leg is saved is not only practicable, but of the greatest consequence: and this observation extends also to diseases of the foot for which amputation at the ankle joint will often be found exceedingly useful. This is well exemplified in a case related by Mr. Syme, in which the probe passed easily into the substance of the astragalus and os calcis. Here, therefore, it is evident that no partial amputation of the foot, as that of Chopart's or Hey's, would have been of use, and excision of the diseased portions, as is so often practised in the elbow, would not have been advisable. In cases, therefore, of compound dislocation of the astragalus and caries of this bone, with its adjoining articulatting surfaces, amputation at the ankle joint ought generally to supersede the old practice of amputation below the knee: and even when the whole ankle joint is diseased, and the articulating extremities of the tibia and fibula are implicated, these diseased portions may be safely removed by the saw, as the caries seldom penetrates to any great depth into the cancellated texture, and much more frequently exists almost exclusively between the astragalus and os calcis, and not between the astragalus and bones of the leg. Three very important advantages, therefore, result from this operation: 1st. A more comfortable stump is formed. 2nd. The risk of life is much less. 3rd. The limb will be much more useful and seemly. (60.)

The removal of internal hæmorrhoids by the ligature instead of the knife, is now too well known to require notice. We would here, however, refer the reader to the account of the wire ligature, which is often found more efficacious than the common one. After bringing the pile downwards by the ordinary methods, Professor Horner, of Philadelphia, passes a strong needle, armed with a ligature, through the upper part of the base of the tumour. The needle is then removed, and the two ends of the ligature tied together so as to form a loop. A stout awl is then passed in a line parallel with the ligature, through the lower part of the base of the tumour. This gives a perfect command over it. The

inferior third of the base of the tumour is now detached from the internal sphincter muscle by means of a scalpel. A wire noose is then passed round the still adherent base of the tumour, and drawn perfectly tight by means of a double canula, after which the awl is removed. The tumour may now be punctured if necessary. It is dead in about five hours, and may be cut off at a little distance from the wire noose. (63.) When the use of the ligature has been determined upon, this mode of applying it may occasionally be an improvement. Dr. Houston, of Dublin, has published an interesting paper on the same subject, in which he condemns the use of both knife and ligature in certain forms of hæmorrhoids, and recommends that the diseased parts should be destroyed by nitric acid, which possesses some peculiar advantages. The kind of disease to which this escharotic is more particularly applicable, is that which is called "*the vascular tumour*," called by different names, as hæmorrhoidal excresence, erectile tumour, spongy hæmorrhoid, varicose tumour, internal hæmorrhoid, &c. It is an affection of the mucous membrane and sub-mucous tissue, and has generally for its basis a nuckle or bunch of varicose veins, but may also be a distinct and independent growth, the result of some other irritation in this region. Every surgeon has his fears, when he uses either the knife or the ligature in such cases, and if both the means could be supplanted by something more safe and efficacious, it would be more frequently resorted to. Dr. Houston points out the properties of *pure nitric acid* as an escharotic on which we may place much dependence, both for its safety and efficacy in those cases where a superficial destruction of the part to be removed, is all that is required. "This acid at the density of 1500 destroys on the instant the vitality of the part to which it is applied, by the production of a chemical decomposition of its solid and fluid elements. The depth of the slough which is to follow may be regulated in some degree by the quantity of acid laid on the part; and its extent, laterally, may be confined with sufficient exactitude to the limit of its first application, by instantly smearing the whole over with olive oil, which neutralizes its further corrosive powers, by combining and forming with it a new but no longer corrosive compound." By this application, therefore, the surgeon may remove the tender, tumid, and bleeding tumour, with little pain and danger, and in the cicatrization which rapidly follows, a radical cure is effected. The way the acid is to be applied is as follows:—Let the patient strain as at stool, so as to cause the tumour or tumours to come into view, then let a piece of wood cut into the shape of a dressing-case spatula, be dipped in the acid and rubbed on the tumour to the extent desired. If a superficial slough only be required, one application will be sufficient; if a more deep one, then two or three applications may be made in quick succession, which being finished, let the part be well smeared over with olive oil. (62.)

In Part V, Article 52, we detailed the practice of Mr. Liston and Dr. Payan, in the cure of vesico-vaginal fistula, viz., cauterization at very long intervals, from two to six months, which gives the parts an opportunity to contract as much as possible after each application of the remedy. The contraction resulting from a severe burn does not take place all at once after the sore has healed; it is a gradual process, and goes on contracting for a considerable time after it has cicatrized: with this object, it is certainly an important improvement in the treatment of vesico-vaginal fistula, to give the cicatrix time to contract fully before again applying the cautery. But it will happen in some cases that the most patient perseverance in this and every other mode of treatment will completely fail, and the surgeon is then obliged to resort to the best palliative means of preventing the constant dribbling of urine through the wound. This will almost necessarily consist in well regulated pressure upon the fissure; and for this purpose a variety of methods have been suggested; but none have in our opinion, been adopted, which are so likely to be successful, as the simple contrivance of Dr. Reid. It consists of a common India-rubber bottle, of moderate size and pyriform shape. To the mouth of the bottle is attached a mount containing a female screw, at the side of which is a small stop-cock; or the air valve used in Mackintosh cushion, may be substituted. By means of a small *condensing* syringe, of the size and shape of the common breast-pump, the dis-

tal end of which ends in a small male screw, corresponding to the one attached to the bottle, the bottle can be distended to the size required. It should be introduced empty and well oiled into the vagina, and afterwards filled with air to to the size which is necessary to produce the required pressure on the fistulous communication, and then the stop cock is to be turned and the syringe withdrawn, a napkin being applied and fastened as usual. The bottle is to be emptied every evening, and withdrawn, so as to allow of the vagina being syringed out with tepid water and the instrument to be cleaned ; it must then be re-introduced. Dr. Reid suggests that as the caoutchouc covering will be acted upon by the constant contact of the urine, an oil-skin covering would be useful. We have long thought that this kind of instrument would be useful, not only in cases of this kind, but also in cases of prolapsion of the womb. It is on the same principle that Mr. Halpin, a short time ago, invented an apparatus to assist in the reduction of retroversion of the womb. Dr. Arnott's practice of fluid dilatation, which, however, has been almost exclusively used to dilate the urethra, partakes of the same principle : and we hope ere long to see the common wooden and Indian rubber pessaries banished altogether, and some simple contrivance on the principle above described substituted. (64.)

There are few surgeons better acquainted with the nature and treatment of syphilis than Mr. Langston Parker, of Birmingham, and we may therefore safely recommend his mode of treating a chancre. Instead of using the nitrate of silver either solid or in solution, so as to convert the specific ulcer into a common one, (which may be done when used very early), he prefers using a much more powerful escharotic, so as at once to disorganize the tissue to a depth coequal with that of the chancre. This the nitrate of silver does not always accomplish; it often, on the other hand, converts the sore into a very irritable one, without destroying its specific character. By using a more powerful escharotic, this is more safely and certainly done; and for this purpose, highly concentrated nitric acid, the acid nitrate of mercury, the acid nitrate of silver, or the potassa cum calce of the London Pharmacopœia may be used. The second of these remedies is made by dissolving a drachm of the subnitrate of mercury in an ounce of nitric acid; the third by dissolving the same quantity of the nitrate of silver in the like quantity of acid; but Mr. Parker prefers the potassa cum calce, which is to be made into a paste of moderate consistency with spirits of wine, at the time it is wanted for use, and the sore and its edges covered with it; it may remain on from half to a minute, or even longer, according to its effects. After this the caustic must be all removed by means of a fine bone spatula, and the black eschar left may be covered with a poultice or any other simple application. All the parts touched by this application are at once destroyed, and on the separation of the eschar we find a clean granulating sore left. We must refer to Mr. Parker's paper for his remarks on the constitutional treatment of syphilis, but we will here shortly advert to his method of treating a bubo which we think equally judicious as his mode of destroying a chancre. If a bubo is forming, insist upon a strict regimen and absolute rest, if possible; smear the part over with mercurial ointment, over this a cold linseed poultice and a piece of oiled silk to keep it moist, confining all by a bandage. The best way, however, is to paint over the enlarged gland, night and morning, with a strong solution of iodine and hydriodate of potass; one scruple of iodine, two scruples of hydriodate of potass, and one ounce of water. Pressure and a slight mercurial course will hasten its dispersion. If suppuration takes place, how is the abscess to be opened—not by a free incision as is commonly done, but by several very small punctures with a lancet over the thinnest part; through these the matter oozes till the cavity is empty, and a weak solution of the sulphate of zinc is then to be injected, of the strength of two or three grains to the half-pint of water. When the abscess is quite empty place a large compress over it. A weak solution of iodine may occasionally be substituted for the zinc in the following proportions: Iodine four grains, hydriodate of potass eight grains, water eight ounces. Mr. Parker thinks that the same method may be extended to the treatment of chronic abscesses. (65.)

Dr. Strohl differs materially from Mr. Parker in his treatment of chancre,

and although we give his peculiar way of treating these sores, we must say that in the specific cases of syphilis we should not depend upon it. He assures us that his local treatment of chancre is one of the most successful yet practised. It consists in cauterizing the sore if it is not much inflamed nor extensive. If it is so, he employs sulphate of copper instead, and dresses the part five or six times a-day with charpie soaked in a solution of about a grain and a half of sulphate of copper to an ounce of water. The sores will generally heal in about twelve days. At other times he uses an ointment composed of two grains of cyanuret of mercury to an ounce of axunge. This ointment is spread upon a piece of linen corresponding to the size of the sore. When this is too painful, it must be taken off for a time and replaced in a weaker form. When it has been on from four to ten hours, it is dressed with mercurial ointment, or opium cerate. (66.)

We cannot but thank Dr. Robert Hamilton, of Edinburgh, for directing the attention of ophthalmic surgeons to the care which is manifested by the German ophthalmologists in their treatment of different affections of the eye. This especially refers to the choice of seasonable weather for the different operations for Cataract, Artificial Pupil, and Staphyloma. This gentleman, we believe, has lately made a tour through Germany for the express purpose of gaining information on his favourite study, and we hope he will continue his series of papers in the medical journals for the purpose of explaining, more especially, those differences of views and practice which exist between ourselves and our eminent brethren in Germany, on this subject. The season of the year in which operations on the eye are undertaken, has been too seldom attended to. With the exception of Mr. Tyrrel and a few others in this country, there are few surgeons who decline operating on the eye on account of unfavourable weather. Perhaps the German surgeons attended *too much* to this object, and the English surgeons *too little*. At any rate, when we read the remarks of Dr. Hamilton on the subject, and the almost universal observance of the practice in Germany, which undoubtedly possesses the most successful operators in Europe, we are bound to pay considerable deference to their opinion: and although we should not like to relinquish our operations on the eye, which are not few, from October to March, as do the Germans in general, we do think there is considerable advantage in selecting that healthy state of the atmosphere for such operations which is so strongly insisted on by our neighbours. "Good and steady weather," as Dr. Gulz remarks, "with an agreeable temperature, is what we desiderate, and every thing that interferes with this—the cold and snowy weather of winter, the piercing and chilling blasts of spring, or the very hot season, or a very wet one—we try as much as possible to avoid. And hence May and July, September and October, are the months we prefer." (67.)

In our last Part, we referred to Mr. Wormald's mode of applying the nitrate of silver to the outside of the eyelids in cases of ophthalmia, and to Dr. Hocken's physiological explanation of the modus operandi of this valuable remedy in strumous cases. Dr. Furnivall, of Hertford, finds that painting the lids over with tincture of iodine answers the same purpose. He uses a camel-hair pencil, and paints the tincture of iodine over the outside of the upper and lower lids, taking care that it does not enter the eye itself; this may be repeated two or three times a week. (69.)

Dr. Hildreth, of Ohio, very strongly recommends the use of creosote mixed up with the strong mercurial ointment, about fifteen drops of the former to half an ounce of the latter, in cases of scrofulous ophthalmia combined with opacity of the cornea. He orders a small quantity to be introduced morning and evening, under the upper eyelid, and by that means it is rubbed over the whole cornea. This treatment was found to clear a cornea which was nearly white, much better than nitrate of silver, and to be in every respect a better application than this substance, and it is especially useful when combined with the usual constitutional treatment. It should be applied to the eye, of such a strength, that the burning or smarting pain from it shall not continue more than five minutes after its introduction. If too strong, it must be diluted with fresh lard perfectly

pure, or with simple cerate. In more chronic cases the application may be made stronger if necessary. (70.)

In referring to what Mr. Liston has called a variety of false aneurism, we will simply give his own views as shortly as possible in this place, and refer the reader to the case itself, published in the preceding pages. His attention was first directed to the investigation of this kind of aneurism in consequence of meeting with the case so much referred to in the journals, in which the carotid artery opened into a large abscess in the neck. If such cases have before occurred, they have not been satisfactorily explained or properly detected. Occasionally it is possible for all the parts in the neighbourhood of an abscess to be more or less injured by the ulcerative process, the coats of the neighbouring arteries, among the rest, becoming denuded by the extension and pressure of the purulent deposit. "The requisite supply of blood to the coats of the vessels is thus diminished, or rather entirely cut off, and as a consequence, ulceration and sloughing, with perforation from without, ultimately occurs." And when this takes place, it is evident that it cannot always be detected, as the signs of an aneurism may not be at all times very evident. This is rendered probable by the case published by Mr. Liston. This happened in a child nine years old, in whom there seemed to be an abscess over the carotid artery at the angle of the jaw on the right side. "Its most prominent point was posteriorly and superiorly at the outer border of the sterno-mastoid. Indistinct fluctuation could be felt, and there was slight pulsation in it immediately over the carotid artery, but on grasping the sides of the tumour no pulsation could be discovered, nor could any be felt inside the mouth." On puncturing this tumour a gush of blood issued out, and Mr. Liston then detected the mischief, and next day determined to tie the carotid artery. The patient ultimately died. (71.)

Lisfranc, in his work, enters, among other subjects, on that of white swellings. He offers some very judicious advice as to the treatment. He thinks that it is not always an easy matter to distinguish the *engorgement* of the soft parts from an enlarged condition of the bone itself, but that in time the induration often becomes moveable upon the bony parts, these last remaining nearly or quite healthy; in this case the disease spreads from without inwards. We need not particularly refer the reader to the importance of discriminating between those collections of pus which often form outside and those which are inside the joint, as this subject is sufficiently dwelt upon in our English works, and particularly by Sir B. Brodie. The most experienced surgeon is often unable to know whether the pus be within or without the joint, and the alternative of amputation decides him in determining to open the collection, and if symptoms follow which denote that the cavity of the joint is exposed also, he proceeds at once to amputate. We quite agree with Lisfranc that in these diseases, as well as in most others, both internal and external, *regimen* is not attended to with sufficient method and importance. This applies more especially to chronic surgical diseases and certain tumours and indurations, where engorgements exist, and where it would be highly beneficial to let the patient "live upon his own substance" for a time, by diminishing the diet to one half or one third, according to circumstances. The reader is no doubt aware of the opinions of Dr. O'Beirne and other Dublin practitioners respecting the remedial powers of mercury in inflammatory affections of the joints. Lisfranc particularly guards us against depending upon this remedy where no inflammation exists, unless in this case it be applied over the part in *thick layers*, to remain in contact with the part, when it acts as antiphlogistic, and not as in the case of friction as a stimulant to absorption. He is fond of applying the *ioduret of lead*, if properly watched that no injurious excitement be produced; and he finds that in scrofulous subjects, the internal use of iodine, and especially the iodide of potassium, is very useful. The iodide of lead is certainly a valuable agent in many cases, and especially when the cervical or axillary, and perhaps also when the mesenteric glands are enlarged; but it ought to be given internally as well as applied externally. The usual dose internally is from four to ten grains. (72.)

In many cases of fistulous sores accompanied with induration, Lisfranc has found great use from injections of chloride of soda, which, he says, has great

power in inducing a plastic secretion, and if these injections fail after being used for several days, they should be suspended, and compression then often succeeds. But if not, the same alternation of injections and compression should be repeated for eight or ten times, and even longer. He affirms, and we think with truth, that these measures frequently fail from want of perseverance. He recommends, also, the cautious use of injections of nitrate of silver and protonitrate of mercury; but when the latter is used, it should be with the greatest caution. The same able surgeon thinks that "the therapeutical employment of inflammation in the practice of surgery (*i. e.* the excitement of an acute for the purpose of subduing a chronic inflammation) insisted upon by Dupuytren, is susceptible of a far greater application than it has yet received." With this view, Lisfranc has revived an operation which has not been in use since the time of Pare, viz: scarification of the indurations surrounding ulcers. They are not to be employed indiscriminately, nor too close to each other. Leeches and poultices may be used to keep down inflammation. With the same view, he often employs incisions in the indurated tissues around fistulæ, caries, &c. He gives us an interesting explanation of the cause of the severe hæmorrhage which occasionally accompanies varicose ulcers. In such cases he has found after death that the internal saphena vein was opened and thickened, with the internal coat inflamed. "And when its walls were cut across their circumference in all their thickness, they did not collapse, and the canal, besides being normally increased in size, remained patent—the section resembling that of an artery." Thus it became an inert tube from which the blood, obeying the unresisted impulse of gravity, escaped without any obstacle when the ulceration had taken place. In his treatment of atonic ulcers, he avails himself of several external applications with success, such as monesia, used in powder or as an ointment, and a powder formed of five parts of starch and one of sulphate of alum, with which the surface of the ulcer is covered. In these cases also, as well as in burns, he is fond of using a solution of chloride of soda to expedite cicatrization. But for this to be useful, the sore must be clean, the granulations in a normal state of developement, and cicatrization commenced. When a superficial vein requires obliteration in order to cure the ulcer, he thinks that the subcutaneous section, as employed by Guerin, may be an improvement, although he himself has only performed this once. The operation which he has been in the habit of performing for this purpose "consists in exposing the vein to about the extent of two inches, dividing it by means of curved scissors at each angle of the incision, and removing the portion so separated; an assistant, by compression, preventing the access of air into the vein during its division. Light graduated compresses are applied, and the wound is healed by the first intention." (73.)

So many different applications have been recommended for the treatment of burns, that we feel some diffidence in bringing another before the profession; but the fame of Lisfranc will always be a recommendation to a remedy which he employs. He strongly recommends a solution of the *chloride of soda*, which, he affirms, acts as an astringent and sedative, affording rapid relief to suffering, preventing an increase of inflammatory action, and dissipating this when it already exists. The strength of the solution is to be regulated according to the irritation produced. This should be but slight, subsiding in ten minutes or a quarter of an hour. It acts far more efficaciously when the mucous substance of the skin is laid bare than through the epidermis.

Varicocele is a disease which occasionally demands an operation, if it were for nothing but to relieve the patient of intolerable pain. Formerly the varicose spermatic vein was cut down upon and tied; but this produced such constitutional disorder, that it is but seldom, if ever, practised. Various means of compression have from time to time been recommended. Some surgeons pass a pin through the skin under the vein, and twist a thread round it so as to press upon the distended vein: others pinch the vein by compressing forceps. Mr. Mayo would recommend the application of potassa fusa to the plexus of veins; and Sir B. Brodie, in one case, simply divided the skin and cut through the varix with a pair of scissors. Mr. Wormald has tried an ingenious method of supporting the testicle so as to prevent the veins from being stretched. He

passed the lower portion of the scrotum through a soft silver ring, well padded, while the patient was horizontal, and while the veins were comparatively empty; the ring was then pressed together so as to form a much less circumference, and as the testicle remained above it, it rested upon the ring something like a prolapsed uterus upon an oval pessary, and by this simple contrivance the testicle became suspended, and the pain greatly relieved. M. Reynaud's plan is as follows: he passes a needle, armed with a ligature, under the vessels of the cord, and ties it upon a thick cylinder of linen, which is to be interposed between the knot and the skin. The knot is to be tied so as to be easily undone, and tied again when the compression requires to be increased. M. Vidal seems to have improved upon this practice of tying and untying, by using a *silver wire* of about the thickness of a fine pin. This metallic thread allows of the ligature being tightened or loosened without undoing the knot. After being fastened over the fold of linen, as used by M. Reynaud, it can be easily twisted so as to allow of any degree of compression. (74.)

Bed sores, caused by the patient lying long in one position, are perhaps as troublesome to a surgeon as any thing. A suggestion of Mr. Henry Jackson's, will, we think, prove very useful in such cases; it is, that as soon as any part which we suspect may be the seat of such sores, exhibits the slightest appearance of inflammation, a solution of nitrate of silver, ten grains to the ounce, should be applied by means of a camel hair brush two or three times a-day, until the skin has become blackened, and afterwards only occasionally. (77.)

In the treatment of effusion within the joints, Mr. Moritz applies the solid nitrate of silver, or a strong solution, (one part of the nitrate to eight or ten of distilled water), to the part affected: the skin at first rises in blisters; this is soon dissipated, and after scaling off of the dried crust, the joint is seen to be obviously diminished in size. This treatment is repeated till the joint is reduced to its natural proportion. (87.)

The removal of small nævi from the face and other delicate parts exposed to view, is sometimes attended with great disfigurement, especially from the eyelids. Dr. Sigmund recommends for this purpose the acetum plumbi as an outward application. He says that it causes a separation of the epidermis, which cracks and falls off, and the newly exposed surface is to be treated as the layer just removed. In four weeks, by this method, he has succeeded in removing small nævi. We should doubt, however, the efficacy of the acetate of lead, either in the form of ointment or lotion, to remove these affections. It is very possible that what is called a mother's mark, or a nævus maternus, may be removed by this application, as this is frequently nothing more than a red or blueish colour of the skin, caused by enlargement of the vessels of the skin, without a disposition to increase; and is in reality very different both in the arrangement of its vessels and in its effects from the sub-cutaneous nævus described by Mr. Wardrop, which is a real aneurism from anastomosis as described originally by Mr. John Bell. We need not here remind the reader of the various methods prescribed for the cure of these sub-cutaneous nævi, as they are described in every work on surgery. Excision, pressure, vaccination, caustic, heated wires, needles, setons, ligatures, and sub-cutaneous incisions, are the methods which have been usually recommended. The process adopted by Mr. Liston, is certainly one of the best where excision cannot be adopted at once, and where there is not much skin to spare. Instead of at once pushing a needle containing a double ligature through the centre of the disease, he first *elevates the skin*, by careful dissection from the circumference of the nævus, and then pushes the armed needle under the part affected. By this means he preserves a larger portion of skin, and allows the noose to be applied more immediately in contact with the tumour, and thus more effectually strangles it. (88.)

Several cases of aneurism have been lately cured in Dublin by compression; and from the success which has attended these cases, and the peculiar way in which the compression has been applied, we must say that this mode of treatment has been too hastily abandoned by the profession, and we anticipate a great improvement in the treatment of some kinds of aneurism from its re-introduction. The compression formerly used was too insupportable to the pa-

tient, and was persevered in with too little intermission. The mode now adopted in Dublin is to compress the vessel with the least possible pressure, and, when this cannot be borne, to partially compress the artery so as to lessen the impulse of the circulation. In a case of popliteal aneurism, published by Dr. Hutton, the compression was made by an instrument adapted to the purpose, upon the femoral artery in the middle third of the thigh, which being insupportable, was removed to the upper part, where the femoral artery was compressed as it passes Poupart's ligament: the compression was maintained for four hours and then relaxed; it was again renewed in a few days, and continued a few hours according to the feelings of the patient. This kind of alternate compression and relaxation was continued for some time, till an artery, about the size of the temporal, was felt pulsating along the surface of the tumour, this being quite solid, much diminished in size, and free from pulsation. The tumour was originally the size of a hen's egg, but in six weeks was reduced to the size of a nutmeg. Two other cases of a similar kind have been treated successfully in the same way, one by Dr. Cusack, and the other by Dr. Bellingham. (87.)

Perhaps tannin is too seldom used by us in cases of hæmorrhage. It has long been used in cases of bleeding from the urinary organs, but we think not sufficiently in cases of uterine hæmorrhage. Its effects are probably not so rapid as we could desire, but where the discharge of blood is not so urgent, it will often prove a valuable assistance, and especially when combined with other means adapted to the particular part from which the blood issues. In our former Retrospect, Part VI, Article 13, we refer to the use of this remedy in cases of hæmaturia, and mention the well known fact that gallic acid enters into the composition of Ruspini's styptic, used by some eminent surgeons in such cases. It also is an ingredient in rhatany root so much used by the French. The styptic virtues of uva ursi, bistort, tormentil, kino, catechu, gall nuts, &c., may also depend upon the tannin which they contain: and as this substance passes the whole round of the circulation, and is again found in the urine, we may readily suppose that it will have a very powerful effect on the smaller vessels of the system. It is for this reason we should depend upon its efficacy more in those cases where we suspect the smaller vessels and capillaries in fault, than where the large vessels of the womb are pouring out blood:—we should rather depend upon its use, for example, in hæmaturia, menorrhagia, or metrorhagia, when the cause is of a chronic and subacute character, than we should in a case of hæmorrhage after labour, or in those profuse bleedings which sometimes accompany abortion. In a case related by M. Dumas, it was found very useful in a very severe uterine hæmorrhage: but we suspect that the opium, with which it was combined, had a good deal to do in in the suppression of the discharge, as this remedy alone will very frequently be quite sufficient to arrest the most severe hæmorrhage from the womb. In Dumas' case, two grains of tannin with a little opium were given every hour. In another case, one of severe accidental hæmorrhage in the sixth month of gestation, in which complete insensibility existed, four scruples of tannin were infused for ten minutes in a pint of boiling water, and then injected slowly into the bowels. When the sensibility returned, the same medicine was administered internally, and in a few hours the patient rallied. (94.)

The chlorate of zinc as an escharotic is perhaps not so generally used as its merits would warrant. We are so accustomed to a certain routine of practice, that it requires strong inducement to cause us to make any change in our old remedies. This substance, however, would often be more useful than potassa fusa or nitrate of silver; according to Vogt and Canquoin, it exercises an influence over the vital actions of neighbouring parts, and to this circumstance is probably owing its efficacy and the healthy appearance of the sore when the eschar has separated. When used for this purpose a paste is readily made, on account of its deliquescence, by mixing one part of the chloride, and from one to four of wheaten flour; or it may be used externally as a lotion, in the strength of two grains to the ounce of distilled water. Dr. Byron, of Meath Infirmary, has lately been using it with success in some obstinate cases of lupus affecting the eyelids, nose, and cheek. He applied it in the solid form to the whole sur-

face of the sore. The pain was excessive, and the heat and redness continued two days. The sore assumed a much healthier appearance after the separation of the eschar. It was applied every three or four days to those parts which again assumed an unhealthy appearance, and in one case it was repeated ten times before cicatrization was completed. The same treatment was adopted in eight cases with great benefit, and we think this treatment well worthy of more extensive trial in these obstinate cases.

In cases of phymosis and paraphymosis, it has been suggested to use an application of belladonna to the part before resorting to the knife. An ointment, composed of thirty parts of cerate and twelve parts of extract of belladonna, should be rubbed hourly on the prepuce in cases of phymosis, and on the glands in cases of paraphymosis. If great inflammation exists, a little opium may be added, and less belladonna.

If Dr. Lewis Shaw's method of removing the gelatinous polypus from the nose be found efficacious, it will certainly be an improvement on the more ordinary methods of excision, extraction, ligature, and caustics. He powders very finely the sanguinaria canadensis, and causes it to be snuffed up the nostril, and the throat to be gargled with a strong infusion. In one case, by repeatedly using these means, the polypus broke in twenty-four hours, and discharged a considerable quantity of gelatinous fluid. The remedy was continued till the whole inner surface of the nose was made raw, and occasionally afterwards. As the case, however, has not been watched a sufficient time, we could not depend upon the treatment. The sanguinaria canadensis is one of the best known acro-narcotics of the poppy tribe.

We are disposed to agree with Mr. Fergusson, that as a means of producing counter-irritation, the actual cautery is too much neglected; people are too much afraid of a heated iron approaching them to allow of the popular objection to this remedy being very easily overcome. The operation resembles too much that of firing horses, to become fashionable, but when properly managed, it is an equally efficient, more manageable, and less painful counter-irritation than either the caustic, potash, or the moxa. It is also of the greatest service in arresting hæmorrhage. Mr. Fergusson has found it of use in some obstinate cases of nodes on the tibia. He brings a large extent of surface under the influence of the heated iron in these cases, not so as to cause a slough, but somewhat in the way which is adopted in firing horses, by which means a sudden excitement is produced over a large surface, while at the same time the skin is not destroyed, or converted into a slough.

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THE

RETROSPECT

OF

PRACTICAL MEDICINE AND SURGERY,

BEING

A Half-Yearly Journal,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

Edited by

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RETROSPECT—169

PRACTICAL MEDICINE,

&c., &c.

ART. I.—ON THE ACTIVE PRINCIPLE OF MALARIA.

By DANIEL P. GARDNER, M. D., Prof. of Chemistry, &c., in Hampden Sidney College.

[A very interesting paper on this subject is published in the American Journal of Medical Sciences. Dr. Gardner asserts, and in our opinion proves, the truth of the following propositions:]

1st. Sulphuretted hydrogen gas exists in the stagnant waters and atmosphere of certain marshes.

2d. The character of malarious regions is similar to that of those in which sulphuretted hydrogen is generated.

3d. Certain agents have been supposed to give activity to the exhalations arising from marshes, called malaria.

4th. The properties of malaria are fully recognised by the profession.

5th. Sulphuretted hydrogen is the active agent in the production of those forms of malarious fever met with on the sea coast, and the diseases belonging to the same class found inland.

[He proves the truth of the first proposition by bringing silver prepared for the experiment, into contact with the air and water in those situations where sulphuretted hydrogen was suspected to be given out. He found that it was almost impossible to procure a sufficient bulk of atmospheric air to detect the presence of the gas; and he was, therefore, unable to detect it in those specimens which were taken from the neighbourhood of marshes; but on making use of silver prepared for the purpose, and placing it in certain situations, he thus possessed one of the most delicate tests for sulphur, and one which is not liable to be attacked by the many agents which act upon lead, copper, &c.]

The silver must present a pure surface. To effect this, it should be kept in contact with a boiling solution of caustic potash and alum. The process must be continued through one or two changes of the solution, if the metal be very unclean. The last should be evaporated to dryness, for by this means the potash is made to act upon any copper that may be present as an adulteration. When the process has been successful, the silver presents a granulated surface of a dull lustre, and immaculate purity. The coins in circulation are beautifully cleaned by this method, and become as good reagents as any other pieces of silver. They were used in the experiments instituted by myself.

The delicacy of pure silver as a test for sulphuretted hydrogen is exceedingly great. A solution was made containing one drop of hydrosulphate of ammonia in one hundred and twenty thousand grs. of water. A five cent piece placed in it was discoloured in the course of a few minutes, and became of a decided light yellowish brown colour in two hours, without agitation. This is by no means the minimum which it will detect. The amount of sulphur present in the solution was determined by precipitating the whole of that substance out of a known quantity of the hydrosulphate by means of the nitrate of lead, collecting the precipitate, washing, drying, and weighing it; allowing the ingredients of the sulphuret of lead to be in the ratio of their equivalents, or as 104 to 16·1, the quantity of sulphur present in a drop was found to be 1-25th of a grain. So that metallic silver, perfectly pure, is able to detect sulphur in a solution containing one part in three millions of water. As a means of determining the amount of sulphuretted hydrogen in mineral waters, it is without comparison

the best test, for all the addition to the weight of the silver is pure sulphur, and the metal is not acted upon by carbonic acid, which is nearly always present, and difficult to separate from the sulphuretted hydrogen.

Having learnt the delicacy of silver, it appeared to me that, by long exposure to the action of the water and air of marshes, it might become stained by sulphuretted hydrogen, if that gas existed in such places. Accordingly, a number of prepared coins were disposed in suitable positions for its detection. Three small rivers, Buffalo, Briery, and Appomattox were selected, and coins suspended in them by a stout silk thread, passed through a perforation made in them before cleaning; the stagnant water lying upon the surface of marshes, and produced by sluggish springs, was also tested in the same way, not allowing the metal to touch the soil, but suspending it from the branches of shrubs. The currents which set out from cold springs, and which are known in the country as spring branches, were also examined in the same way, at different points from their origin. In the air over rivers and marshes, coins were exposed. The description of money used was various, five cents, ten cents, twelve and a half cents, and twenty-five cent pieces were all taken, according to the change in my possession. They were first perforated in a marked place, so as to be recognised, next cleaned and dried, then carefully weighed, furnished with a string, and lastly carried to the place selected. Great care was taken to keep the surface unsullied by the touch of the finger or otherwise. The number of pieces used was thirty, and the suspected places within a circle whose diameter is seven miles were examined.

In twenty-two hours after the first set of these coins were deposited, two were found distinctly stained, one in a marsh, and the other in a spring branch flowing through a marshy piece of land, and receiving constant additions of stagnant water from it. Two other coins immersed for the same time in the Buffalo river exhibited no sign of change. This great difference is worthy of remark, and points out the locality wherein the gas is generated. It was found to be a law, from repeated examination, that the shallow waters of marshes contained the most, and river, the least amount of gas; the coins placed in the latter sometimes required a month, and those suspended in air even more time for discolouration. In all the experiments I made, the silver was ultimately stained.

The discovery of sulphuretted hydrogen in the air, is a new and important feature of these researches. In one coin placed over the Buffalo river it required five weeks to produce the sulphuret stain, but a quarter of a dollar suspended eighteen inches from the soil, in a marsh over stagnant spring water, was discoloured in a week. In every case where the gas was detected rapidly in water it was found in the air over it, in a greater or less time. This must necessarily be the case, for a solution of sulphuretted hydrogen exposed to the atmosphere must continually give off that gas, by exosmose, until the air and water contain equal quantities. Hence the gas abounds where it is generated, both in the air and water, and diminishes in quantity as the distance increases from the place of its production. That sulphuretted hydrogen exists in air must be admitted, when the discolouration of white-lead paint in cities is considered; the houses painted with it in London and Paris, become of a light dingy yellow in a few years. Plate and other silver wares lose their polish and become tarnished in houses. These changes are undoubtedly due to sulphur existing in the atmosphere of such places.

That the discolouration observed in the coins was due to the formation of a sulphuret was proved directly by the reduction of the silver. Two pieces were selected and weighed, after an exposure of ten days. They had both acquired 2-100th of a grain access of weight, but as their diameters were not similar, the increase was not in the ratio of their surface, but as 26 to 35. This was due to the difference of the places from which they had been taken, the one from a marsh the other from a spring branch. The process adopted for the detection of sulphur on the coin, was by passing a stream of hydrogen gas over the metal inclosed in a green glass tube, and made red hot; the effluent gas discoloured nitrate of silver in the manner of sulphuretted hydrogen.

Having proved that sulphur exists in these localities, my next object was to

examine the causes of it. In the foregoing experiments, the immediate source was a marsh, containing much decaying vegetable matter, a rich alluvial soil, saturated with *spring* water, or that which had percolated through the soil, and heated by the temperature of midsummer. These four conditions are all worthy of examination.

Alluvial deposits contain much vegetable matter, their blackness is due to it in some measure. This vegetable matter is in a constant state of decay, the rapidity of which is proportional to the access of oxygen, and the warmth of the season. Such accumulations are, therefore, interesting, as laboratories in which powerful affinities are bringing about numerous striking changes. They form the scene of many important events worthy of close attention. Let a sulphate be brought within the reach of these powerfully deoxidizing masses, and it will be decomposed by the destruction of its acid.

The second element of the sites in which sulphuretted hydrogen was detected by me, is decaying vegetation. The effect of this differs in no wise from the action of the organic constituents of alluvion. In its decay, carbon is left in excess, and exerts all its powerful affinities to assume the gaseous form. But vegetables contain certain inorganic constituents, which are of considerable interest in the changes under contemplation. Of these, the sulphates of lime, soda, potassa, and magnesia have been detected. In the decay of a plant containing any of these salts, the results will depend upon the presence or absence of water. If dry, they will be unchanged; but if water and heat be present, the sulphuric acid will be decomposed. The leaf contains a large proportion of the salts existing in a plant.

But of all the agents discovered in these localities, spring water is the most important. It is usually impure. It contains the soluble salts of the land through which it has percolated. These must, from the nature of the case, differ. Muriates, sulphates, phosphates, and carbonates have been found by different analysts. Spring water is seldom free from sulphate of lime or magnesia—the former imparts to it the quality denominated hardness. When these ingredients are present in any quantity, and the water is kept in contact with decaying vegetable matter, they are decomposed, oxygen is abstracted, and sulphurets are produced—the latter in their turn yield sulphuretted hydrogen with the first nascent hydrogen they encounter. The final compound of these bases is most probably a carbonate. That sulphuretted hydrogen is thus produced, is a matter of demonstration. Prof. Daniel put decaying leaves together with water containing sulphate of soda in a jar, and subjected them to the action of a summer's heat; in three months sulphuretted hydrogen was abundantly given off and the salt decomposed. If no sulphate be present, either in the vegetable matter or water, the gas will be given off. Hence, to apply the result of this decisive experiment to our purpose, no locality, the soil of which is destitute of the sulphates, can generate the deleterious gas.

Thus we have reached a generalisation which is indisputable, and of the greatest practical importance. For it affords the means of discriminating, even in the most unpromising situations, between a healthy and an insalubrious site.

To ascertain the presence of sulphates, the addition of a few drops of a solution of chloride of barium is all that is necessary. If the cloudy precipitate that falls is unsatisfactory, boil the spring water until it is evaporated to a small compass, and test again. If a sulphate be present, the white, dense sulphate of baryta will fall, a salt that cannot be mistaken from its utter insolubility. This test is so simple, that any member of the profession can decide upon the existence of sulphates, and therefore of sulphuretted hydrogen, in any place whatsoever. The test for the gas detailed in sections 4, 5, 6, is not less simple, and therefore, there are placed in his hands both the theoretical and experimental means of deciding on this grave question at all times.

It is also a fact, no less valuable than the preceding, that the practitioner is enabled to decide, by analysis, the comparative amount of the deleterious gas in different situations. It is not extent of surface, depth of soil, geological structure, or the amount of evaporating water that concerns him, but the quantity of the sulphates. This point I have had the means of examining, during several

years, in consequence of the analysis of many specimens of sulphur, and other mineral waters, from the counties of Prince Edward, Cumberland, Buckingham, Lunenburg, and Halifax in this state. Those waters, containing the greatest amount of sulphates, yielded larger quantities of sulphuretted hydrogen than those which contained but little of these salts. All the specimens of sulphur water, examined by me, were from alluvial deposits. Two saline waters contained sulphate of magnesia and lime, but they were procured from rocky places, in which no vegetable matter existed. Three specimens were from alluvial situations, but contained no sulphates, and therefore no sulphuretted hydrogen gas. But few mineral waters are as rich in sulphates as the ocean. Schweitzer found in 1000 grs. of water from the British Channel, 3.7 grs. of sulphate of lime, and magnesia. Laurens 7.17 grains in the same bulk from the Mediterranean. Murray, in a wine pint, 21.6 grs. of sulphate of magnesia. Prof. Daniel, from 80 to 120 grs. of sulphuric acid in a gallon of the waters from the African coast. The sea stations are the most dangerous, when vegetable matters are present, as on alluvial coasts; but the open expanse of old ocean is without the least trace of malaria. Rivers, before they become salt by contact with the ocean, contain less saline matters than marshes, in consequence of the showers of rain water which reach them without percolating the soil and dissolving out the sulphates incorporated in it.

The temperature must be warm, for the production of these changes in the sulphates. The amount of heat necessary to commence the decomposition is unknown, and can be determined only by experiment. It is known to be above the freezing point, for water is necessary. An elevated temperature is highly favourable, and the more elevated, so long as water remains, the more favourable it is for the production of the gas. This is an immediate consequence of chemical laws, and is further borne out by the quantities of sulphuretted hydrogen discovered in the tropical waters of Africa and China. In the same proportion, the fatality of malarious diseases increases. Temperature is, therefore, an element in our researches, not be overlooked.

[Dr. Gardner next proves that, "the character of malarious regions is similar to that of those in which sulphuretted hydrogen is generated." He brings forward the facts related by Messrs. Laird and Oldfield in their narrative of an expedition into the interior of Africa along the Niger, commented upon by Professor Daniel,* besides numerous other accounts from various expeditions and localities, as New-Orleans, Charleston South Carolina, Batavia, Smyrna, &c., &c. The facts, therefore, in favour of Dr. Gardner's fifth proposition, seem exceedingly strong, viz.: that "sulphuretted hydrogen is the active agent in the production of those forms of malarious fevers met with on the sea coast, and the diseases belonging to the same class found inland."]

Sulphuretted hydrogen has been discovered on the most deadly coasts. It is produced in marshes where sulphates exist either in the vegetable matter, water, or soil. The destruction of the sources of the gas, by the exclusion of the sea, has annihilated the fatal malaria of some of the Italian marshes and given health to the pestiferous town of Viareggio.

The agents which decompose sulphuretted hydrogen are also inimical to malaria. Fire is of this number, for by means of it the gas is converted, in the open air, into sulphurious acid and water. Chlorine destroys both malaria and sulphuretted hydrogen, the latter by combining with its hydrogen and precipitating the inert element sulphur. The value of chlorine has been proved both in the American and British squadrons.

The existence of trees, by decomposing the organic compound, and appropriating its water, is calculated to destroy malaria.

Its weight, and the readiness with which water may be separated from it, preclude its rising to any altitude in the atmosphere.

It is produced in the autumnal months: because then, the amount of moisture, the coolness of the nights over the temperature of the days, and the fresh

* See Retrospect, Part IV., Art. 112.

deposition of leaves, furnish the most abundant materials for the formation of the organic compound.

The poisonous effects of sulphuretted hydrogen are too well known to require comment. There is no agent, which marshes evolve, that is so destructive to life. Messrs. Thenard and Dupuytren killed birds in an atmosphere containing 1-1500th part of the gas. Nysten found that it was absorbed at once by the blood. Two or three cubic inches caused immediate death when injected into a vein, the cavity of the chest, or the cellular tissue of a dog. The same authority, with Lebkuchner, and Chaussier found that it was absorbed through the healthy skin, and produced dangerous effects. The gas is a narcotic poison, prostrating the nervous system, and destroying muscular energy. In small quantities it produces colic, and internal congestion.

Liebig states, that sulphuretted hydrogen produces immediate decomposition of the blood. *American Journal of Medical Science, April,* 1843, *p.* 279—297.

[In opposition to these views we have the opinion of Dr. Morris Pritchett, expressed in his late work "on the African remittent fever which occurred on board the ship Wilberforce on the river Niger." In this work he denies the truth of Professor Daniel's views as expressed in that part of our retrospect just alluded to. He says :]

In obedience to directions received from the inspector general of naval hospitals and fleets, on the Wilberforce reaching the coast of Africa, and also in proceeding up, and on our way down the Niger, the most rigid and careful investigation of the waters was instituted every hour, the test used being sulphate of copper, nitrate of silver, solution of arsenic, ferrocyanate of potass, carbonate of lead, tartrate of antimony, and lastly, the terchloride of gold, but in no instance was the slightest trace of sulphuretted hydrogen detected. There can be no doubt, therefore, that the sulphuretted hydrogen found by Professor Daniel arose from the decomposition of the water in the course of its transmission to England from the coast of Africa; nor is it necessary to go to the mouths of the Niger and Gambia to procure water, which, after being kept five or six weeks, shall yield sulphuretted hydrogen gas abundantly; the water of the Thames may be tried with an assurance of having bye-and-bye a very satisfactory demonstration of this fact.

But even if sulphuretted hydrogen were evolved from the waters of the west coast of Africa, would this explain the fevers which there prevail? All the world knows that every chemical lecturer produces sulphuretted hydrogen gas in abundance in his lecture-room, and that its odour is sometimes disseminated for the edification of the audience, but never with the effect of inducing African fever among them. In the Wilberforce an evolution of sulphuretted hydrogen ensued to a very disagreeable extent on several occasions, in consequence of the bursting of some cases of preserved meats; but in no instance did any disease take place from this cause; when the stench was excessive, a slight faintness, followed by nausea, was complained of for a moment; but these symptoms speedily passed off on coming into the open air, and no ulterior ill effects ensued. An occurrence of this kind took place at St. Antonio, Cape de Verds, on the 17th of June, 1841, when the heat was very intense, and the stench so intolerable as to drive every one from the immediate neighbourhood whence the canisters were removed and thrown overboard.

[Although we have here given Dr. Pritchett's views of sulphuretted hydrogen as a cause of fever, we by no means think he has overturned the facts related in Dr. Gardner's paper; neither do we think that his own opinion of the cause of this affection accords with that generally entertained. He thinks that solar influence, combined with electricity acting on the system in a hot and moist atmosphere, may be looked upon as a chief cause of the disease.] *Dublin Journal of Medical Science, Sept.* 1843, *p.* 146.

[Dr. McWilliam also disagrees in opinion with Professor Daniel, and asserts that no such gas as sulphuretted hydrogen is found in the Niger, in the locality where the fever raged so fatally.

British and Foreign Medical Review, July, 1843, *p.* 263.

2.—USE OF ARSENIC IN DISEASES OF THE SKIN.—By John E. Erichsen, Esq.

[There is probably no substance in the Materia Medica about which a greater discrepancy of opinion has arisen than arsenic. By some its uses have been highly extolled and used too indiscriminately; by others it has been looked upon only as a last resource, and used when every other remedy has failed. This difference of opinion has probably arisen not only from the carelessness of diagnosis and the too indiscriminate use of the remedy, but also from using the medicine at an improper stage of the affection and in constitutions in which it ought not to have been tried. Most practitioners are now aware that arsenic may be a very improper remedy in the early stages of a cutaneous affection, and a most valuable one in the latter stages of the same disease. In this want of discrimination will probably be found to consist the whole defect which renders its use so often valueless. It too often follows that when a medical man ascertains the name and nature of the cutaneous affection, he applies a certain routine of remedies without paying sufficient attention to the stage of the disease which he is treating.]

It is to Adair and Girdlestone that we owe, at or about the commencement of the present century, the introduction of the preparations of arsenic in the treatment of the diseases of the skin, and from the extraordinary effects that they were shown to possess in removing and controlling affections of this kind, even though of many years' standing, they soon came into general repute, being resorted to, almost as specifics, in those cases of cutaneous disease that had resisted other means of treatment, and even in such as would readily have yielded to less active measures.

The preparations of arsenic that are most commonly had recourse to in the treatment of cutaneous complaints are, the solution of the arsenite of potassa, (Fowler's solution), the solution of the iodide of arsenic and mercury, (Donovan's solution), the iodide of arsenic and arsenious acid in the form of pill. Besides these, the solution of the arsenite of soda (Pearson's solution) has been recommended by some, and that of the arsenite of ammonia by others, chiefly by Biett; but as these two last are not much employed, and as their qualities and mode of action seem in no way to differ from those of the arsenite of potassa, I shall omit all consideration of them.

The opinions of authors vary somewhat as to the dose in which we should commence the administration of the solution of the arsenite of potassa, and as to the extent to which we ought to carry it. Girdlestone recommends us to begin with the smallest doses, and never to increase the quantity taken beyond five or six drops three times a day, and only to persevere in such quantities as can be taken without inconvenience to the patient. In children, he says, the dose should not exceed two or three drops once or twice a-day. The largest quantity he ever gave was twelve drops three times a-day; but he soon found that half this quantity would suffice equally well. Bateman and Thomson advise us to begin with doses of four or five drops, which may be slowly increased up to eight, twice a-day. Biett, who advocates the employment of arsenic more generally than any other writer, directs us to commence with three drops of the solution every morning before breakfast, and to augment this, every fifth or sixth day, by two or three drops, until twelve or fifteen were taken daily; more than this, he says, should not be administered, and it may be expedient to interrupt the use of the medicine, in these doses, from time to time. Rayer recommends doses of from four to five drops daily, to be gradually increased until the patient takes fifteen drops in four divided doses. Thus, then, although these authorities differ somewhat as to the precise mode in which the solution of the arsenite of potassa is to be taken, they all agree that we should not carry it beyond fifteen, or at most, eighteen drops in the course of the day. I am in the habit of beginning with two minims of the solution, equal, in quantity, to 1-60th of a grain of arsenious acid, twice a-day, and to carry it up to five, six, or seven-and-a-half minims, equal to the 1-18th of a grain of arsenious acid, three times a-day; beyond which I believe it is never necessary to increase the dose, as I am convinced that the good effects of this remedy are to be obtained rather by small

doses continued for a considerable time than by the exhibition of larger ones at longer intervals. But the smallest even of the quantities that have been mentioned are quite inadmissible, as will be shown in a subsequent part of this paper, in individuals of an excitable temperament.

Within the last two years another preparation of arsenic has been introduced to the notice of the profession, by Mr. Donovan, of Dublin, under the name of the "Liquor Arsenici et Hydrargyri Iodidi;" for a full account of the chemical composition and medicinal effects of which I may refer my readers to the papers by Mr. Donovan in the Dublin Journal of Medical Science.* The dose of this preparation is variously stated. Dr. Kirby commences with doses of 20 minims, which he states are large enough to ensure the good effects of the remedy. Mr. Cusack recommends from 20 to 40 minims three times a-day, which may, in some cases, be pushed to a greater extent. Dr. Irvine has given as much as half a drachm three times a-day, for seventy-six days, with an intermission of only two or three days on account of head-ache and sickness. Dr. Graves administered it to the extent of half a drachm four times a-day for two months, with but two interruptions; and Sir Henry Marsh carried it, in the case of a boy twelve years of age, to the extent of half an ounce daily, in divided doses, which only produced very mild insalivation. Mr. Donovan is of opinion that it is prudent to begin with Dr. Kirby's doses; but he states that, after a time, a state of tolerance is induced, and then the medicine may be gradually increased at discretion. It has been administered to patients of all ages; thus, one of Sir H. Marsh's patients was but five years old, while both of Dr. Graves's had attained their sixtieth year, and Dr. Croker's her sixty-eighth.—The composition of the liquor of the hydriodate of arsenic and mercury is, according to Mr. Donovan, as follows:—

Water, one drachm. Arsenious acid, $\frac{1}{8}$ of a grain. Peroxide of mercury, $\frac{1}{4}$ of a grain. Iodine, as hydriodic acid, about $\frac{1}{4}$ of a grain.

Thus this preparation contains exactly a quarter as much arsenious acid as enters into the constitution of Fowler's solution, differing besides in other very obvious and important respects.

The iodide of arsenic, a very useful preparation of the metal, for the introduction of which into practice the profession is indebted to Dr. A. T. Thomson, is most conveniently administered in the form of pill. The dose of this preparation should not at first exceed the twelfth of a grain twice a-day; this may gradually be increased until the patient takes the sixth, or even the fourth, of a grain three times a-day, although these doses are very rarely necessary. The iodide of arsenic is most advantageously exhibited in combination with the extract of conium, which seems to sheathe its irritating qualities, and prevents it from exciting too powerfully the mucous membrane of the stomach. By the addition of biniodide of mercury, a compound pill may be formed, which resembles, in its effects, the liquor of the hydriodate of arsenic and mercury, and has been much and successfully employed by Dr. A. T. Thomson in the treatment of lupus and other diseases of the skin, and which I have found of particular service in some syphilitic eruptions, more particularly of a squamous kind. Of its use in these affections I had an interesting example last autumn, in the person of a country gentleman, the brother-in-law of a physician in this town, who had laboured under syphilitic psoriasis of the legs, the right one more particularly, for between five and six years; and who, in less than four weeks, got perfectly well under the use of a pill containing one-twelfth of a grain of the iodide of arsenic, one-sixth of a grain of the biniodide of mercury, and two grains of the extract of conium, twice a-day; the iodide of arsenic being gradually increased to one-sixth of a grain, and the biniodide of mercury omitted at the end of a fortnight, as it began to affect the gums. The diluted biniodide of mercury ointment was at the same time employed externally.

The arsenious acid, in an uncombined state, is but very seldom employed in this country, although with Biett, and some other continental physicians, it is a favourite remedy in psoriasis inveterata, and other very obstinate cutaneous affections. Its dose, in the form of the 'Asiatic pill,' varies from the sixteenth

* See Retrospect, Part II., Art. 82, and Part IV., Art. 51.

up to the fourth of a grain twice a day. The comparatively large quantity of of arsenious acid that is required in an uncombined state to produce a beneficial action on the skin, ought, in my opinion, to militate against its employment in this form. The minimum dose of arsenious acid recommended by most writers on the diseases of the skin is one-sixteenth of a grain; now this is equal to the quantity contained in seven and a half minims, almost the maximum dose, of the solution of the arsenite of potassa, and certainly too large a quantity of this preparation for us to be justified in commencing with. This difference in effect is probably owing to the greater readiness with which the arsenious acid, when presented in solution, must be taken up by any surface, and carried into the general circulation.

Mr. Donovan lays great stress upon the small quantity of arsenic, and of the other elements, that, in his preparation, sometimes effect a cure; but in this I do not think it presents any thing peculiar, or more remarkable, than is constantly seen in Fowler's solution, and the other preparations of arsenic.

The *modus operandi* of the arsenical preparation, as of most other medicinal agents, is unknown to us. We are only acquainted with their secondary effects, which manifest themselves most unequivocally on the digestive, nervous, and integumentary systems; on all of which they act as excitant or stimulating tonics. When arsenic is being given in medicinal doses, one of the earliest constitutional symptoms produced by it is an acceleration of the heart's action: this, as Dr. Duffin has remarked, and as I have had occasion to observe, sometimes becomes quickened in the course of a few days after the administration of the mineral has been commenced, by ten, twenty, and even thirty beats in the minute, the pulse acquiring at the same time a hard and somewhat wiry feel. This acceleration of the pulse is particularly observable in individuals of sanguineous or sanguineo-nervous temperament, in whom the heart's action is readily excited under the influence of physical exertion, or of mental emotion. In some cases before, but in most after this increase in the rapidity of the heart's action, evidences of some degree of irritation about the mucous membrane of the stomach will manifest themselves; there will be more or less thirst; the tongue will become coated towards the centre and root, with red sides and tip; there will be loss of appetite and a sense of weight at the epigastrium; the patient, about the same time, will complain of heaviness and pricking sensations about the eyelids, with flashes of light before the eyes when they are closed, and after a time the eyelids will become puffed and droop, giving the countenance a peculiarly melancholy and care-worn appearance: there will also be more or less head-ache experienced, chiefly over the eye-brows and lower part of the forehead: this pain in the head is, indeed, very frequently, one of the first symptoms indicative of the medicine disagreeing with the system. The patient will also very commonly complain of confused and horrible dreams; this is more particularly the case with children, in whom, as the nervous system is very excitable, there is a natural tendency to irritation and disturbance of it. Girdlestone has remarked that in some cases the skin assumes a uniform lobster-red colour, that erysipelas comes on, or that phlyctenæ and pustules make their appearance when the arsenic disagrees. I have very frequently had occasion to observe that the disease of the skin for which the medicine may have been administered, more particularly if it be a case of chronic eczema, has evinced a decided tendency to increased action; the patches becoming red and irritable, showing that the integuments partake in the excitement that is induced in the system generally by the employment of these preparations. If the use of arsenic be still persevered in, which, after one or more of the symptoms which have just been detailed have manifested themselves, should never under any circumstances be the case, we shall find that great irritation will supervene about the mucous membrane of the stomach and throat, there will be nausea, vomiting, and total loss of appetite; the headache will increase in severity; the urine will become high-coloured; the countenance, which has become pale and sallow, will assume a remarkably sorrowful and anxious cast; tremors of the limbs come on, with an occasional feeling of faintness, and the foundation of incurable and permanent disease may be laid in the digestive organs or nervous system. It

must not, however, be expected that all these symptoms should show themselves in every case in which the remedy has been pushed beyond its utmost limits as a medicine: far from it: in some instances the first symptom that we notice indicative of the medicine having begun to disagree, and of its employment having reached those bounds beyond which it cannot with safety be carried, is a degree of thirst, and a feeling of oppression about the epigastrium; in others, pricking sensations about the eyelids and flashes of light before the eyes; in others, again, and this very commonly, headache with disturbed dreams; and usually antecedent to, or, at all events, coincident with any one of these symptoms, will be found an acceleration in the pulse. The occurrence of any of these symptoms should be an instant warning to the practitioner to diminish the dose of the arsenic, or to intermit the use of the remedy altogether. If the patient be of a lymphatic temperament, or is somewhat avanced in years, of a languid, debilitated habit of body, and the symptoms of excitement, local or general, be but trifling, it would be sufficient to diminish the dose to one-half of that which is being taken, and to watch carefully the effects of the reduction before taking away the remainder. If, however, the patient be of a sanguine or sanguineo-nervous temperament, if he has been taking the arsenic for a considerable length of time, and if the symptoms of local disturbance be very unequivocal, it will be more prudent to leave off the use of the medicine for a few days, to give some saline aperient, and then, if it be thought expedient to do so, to recommence it in smaller doses. In practice it often becomes a question of considerable importance as to how far the preparations of arsenic may be carried; for this it is impossible to lay down any fixed rule as to quantity or time, as these must necessarily vary very greatly in individual cases, and our only guide in these respects must be the symptoms of local or constitutional disturbance that they may occasion. From a careful examination of many cases of cutaneous disease in which this mineral had been employed, I am enabled to state that nothing is gained by carrying it beyond a certain point, as far as the affection of the skin is concerned, and that by so doing, much mischief, perhaps of an irremediable nature, may be inflicted on the patient; that it is not a remedy that can with safety be *pushed*, to use a common phrase, but that all the good that will result from its employment can be accomplished by a careful and guarded administration of it, and by its being intermitted on the first appearance of any symptom of local or general irritation. Any marked acceleration of the pulse, or disturbance in the functions of the stomach and nervous system, should serve as a warning to us to discontinue its use. It must also be borne in mind that arsenic is a cumulative remedy, and that its deleterious effects may suddenly be manifested at a time when we least expected it to disagree. On this account patients who are taking it should be seen by their medical attendant every second, or at most every third day, and should have directions given them to omit the medicine sbould any symptoms that have already been mentioned as indicative of its disagreeing with the habit, show themselves. In illustration of the bad effect that may result from the injudicious use of the preparations of arsenic, I may mention that I have at present under my observation a young lady, of a highly nervous temperament, but otherwise perfectly healthy, and without any hereditary disposition to disease, who, whilst suffering from an attack of psoriasis of the legs some years ago, was advised to take Fowler's solution, which she did, in the hope of speedily getting rid of, to a delicate female, a disgusting affection, to such an extent, without the knowledge, however, of the medical attendants, that she brought on extensive derangement of the stomach, which was followed by a violent neuralgic attack, together with, at a subsequent period, a distressing train of hysterical symptoms, which have terminated in a state of dementia, that, having now existed for nearly four years, may almost be looked upon as incurable.

The circumstances that contra-indicate the employment of the arsenical preparations are divisible into three classes: 1st. Those that relate to the temperament and habit of body of the patient. 2d. The complication of the cutaneous affection with other diseases. 3d. The nature, stage, and condition of the disease of the skin itself.

[Mr. Erichsen lays great stress upon the necessity of attending particularly to the constitution and temperament of the patient before commencing the use of the medicine. It will be badly borne by individuals of a plethoric habit of body, or of a highly sanguine or sanguineo-nervous temperament —this arises from the stimulating properties of the metal. In such cases, the digestive organs become so irritated, and the nervous system so excited under the use of the arsenic, that it is impossible to employ it in any such dose as can be expected to produce a beneficial effect upon the cutaneous affection. There are other circumstances which contra-indicate the use of this remedy, namely, "the complication of the cutaneous affection with other diseases," and especially with irritative or inflammatory gastric dyspepsia, accompanied with a sensation of heat and oppression at the epigastrium, increased by food, so well described by Dr. Todd. When this form of dyspepsia is present, the smallest doses of arsenic will do harm, as the usual effect of the remedy, when continued too long, is to produce these very symptoms. Besides this form of indigestion, any other local inflammatory condition of the system, or the supervention of phthisis, will contra-indicate the use of so powerfully stimulating a tonic as arsenic. Another important circumstance to attend to is the kind of disease, and the stage in which to use it. With regard to the stage of the disease, it may be stated that generally it is only in the chronic form that it can safely be used. Most cutaneous affections are at first inflammatory, and during this state would be highly improper to prescribe arsenic.]

But the question naturally arises, how is the period at which arsenic is admissible to be ascertained? It cannot certainly be a matter of time, for in one case the same disease may be in a more active inflammatory condition at the end of months, or even years, than it will in another at the expiration of but a few days or weeks. In answer to this I may state, that I think it will usually be found, with sufficiently few exceptions indeed to make it a general rule, that the administration of arsenic is contra-indicated in all those cases of cutaneous disease in which topical stimulants of a mild nature, such as the ointment of the white precipitate, or of the nitrate of mercury diluted with equal parts of the spermaceti ointment, or a solution of the sulphuret of potassium, in the proportion of about a drachm to the pint, increase permanently the severity of the affection. I do not mean to imply by this that the reverse holds good, viz., that a disease in which external stimulants are employed with success should necessarily benefit by the administration of arsenicals; far from it; but I cannot recal to mind a single case that has improved under the use of this mineral that did not bear the employment of gently stimulating ointments or lotions, provided always that the disease did not occur in a person of a very highly excitable or irritable temperament, or in one labouring under irritation of the gastric mucous membrane, or other such decidedly contra-indicating affection.

In confirmation of this I may adduce as an example that very common disease eczema, which, when in its acute stage, in which it could bear no other topical applications than the most soothing poultices and fomentations, would infallibly be greatly increased in severity by the employment of arsenic even in its most minute doses, will, at a more advanced period, when it has fallen into a passive condition, improve under the use of the mineral, at the same time that it receives the most decided benefit from the application of topical excitants, such as the white precipitate or nitrate of mercury ointments and sulphureous baths or washes. And this is nothing more than we should *a priori* expect; for if, as I think there can be no doubt, arsenic acts as an excitant to the integumentary system, amongst the other tissues and organs, stimulating in a peculiar way the cutaneous capillaries, we cannot suppose this stimulus to be beneficial from within, unless it also is so from without.

The circumstances, then, under which the employment of arsenic in cutaneous diseases is contra-indicated having been pointed out, we shall easily arrive at a knowledge of those cases in which its administration is likely to be attended by beneficial results. It has already been shown, that the use of the preparations of this metal is exceedingly hazardous in individuals of a sanguine or san-

gaineo-nervous temperament and excitable habit of body, or in those who suffer from, or are peculiarly disposed to irritative gastric dyspepsia, or any inflammatory disorder. On the other hand, they are in most cases borne well by individuals of a somewhat phlegmatic, debilitated, or lax habit of body, more particularly if they are past the middle age, with a pale cachectic complexion, languid weak circulation, and a general want of tone about the system, acting upon such patients as powerful and useful tonics. In persons of this habit of body, the diseases of the skin appear rather to be dependent upon a degree of debility or want of power in the cutaneous capillaries; and it is in these patients that the preparations of arsenic are of great service, in exciting in a peculiar manner, a more healthy action in this class of vessels, thereby modifying or removing those morbid changes that are the results of an abnormal condition in their secernent and nutrient functions.

The diseases of the skin that are likely to be benefitted by the employment of the arsenical preparations belong to very different orders in all classifications of these affections; but however widely they be separated by artificial arrangement, they all agree in this one important respect, that they are characterized by the presence of scales or scurf; that even when they do not belong to the order *Squamæ*, they are usually but little benefitted until they arrive at that stage in which they assume a furfuraceous, or scaly condition, in which state the boundary line between them and the real squamous disease is, in very many cases, but very faintly marked. Thus, in the earlier stages of eczema, for example, arsenic is, in any form, decidedly useless, if not positively injurious; but when once this disease has fallen into that condition in which there is no longer any distinct evolution of vesicles, but, in their place, a serous fluid, which exudes at times, and dries rapidly into thin and furfuraceous scales or laminæ, the subjacent skin being red, glazed, dry, and more or less fissured and cracked, the use of these remedies will often be productive of the most decidedly beneficial results. *Medical Gazette, May 12, 143, p. 238.*

Among the exanthemata there appears to be but one affection that can ever require the exhibition of arsenic; this is *urticaria tuberosa*, a rare disease, and one that I have never had an opportunity of observing. Cazenave, however, relates a case as occurring under Biett, in which it became necessary to have recourse to Fowler's solution.

The only papular disease that ever necessitates the administration of arsenic is *lichen* in its most chronic and rebellious forms. In very obstinate cases of this affection, especially in those varieties of *lichin circumscriptus* that are confined to the face or to the margin of the anus, and the genital organs, in which the skin becomes red, excoriated, chapped, and furfuraceous; or in the chronic confluent form of the eruption, when the whole of the body is covered by papulæ, capped with thin flimsy scales, having a close resemblance to pityriasis, the irritation and consequent insomnia being most distressing, it may become necessary to exhibit one or other of the preparations of this mineral. Biett was in the habit of ordering the "Asiatic Pills," one a day for a month or more. Rayer recommends either Pearson's or Fowler's solutions, due attention being paid to those circumstances that have already been spoken of as contra-indicating their employment. I would give the preference to Fowler's solution, as it is a milder preparation than the arsenious acid. It should be borne in mind, however, that these remedies are only admissible in those cases of *lichen* in which all other means of cure have failed, and in which the patients are worn out by the irritation and restlessness that are the usual consequences of this disease in its more severe and intractable forms. In proof of the value of Fowler's solution in very obstinate and chronic forms of *lichen*, I may mention the case of a girl named Mary Ann Dockett, nine years of age, with delicate complexion, and dark hair and eyes, who lately came under my care for confluent lichen of the whole body, with the exception of the face, part of the chest, the palms of the hands, and soles of the feet. The whole of the rest of the surface was studded with an immense multitude of papulæ, somewhat resembling, but more closely set than those which occur in the cutis anserina; these papulæ, which were particularly distinct about the outer sides of the thighs, arms, and back,

were covered with exceedingly minute, flimsy, whitish scabs, giving the skin a powdery appearance. The head was very scurfy, and the hair crisp and dry. At times there was considerable irritation in the skin, which became reddened and cracked, more particularly about the bends of the arms and knees. The mother states that the child has been affected from birth, and that the disease is hereditary on the father's side. As various remedial measures had been resorted to, but without success, and as the child's health appeared to have suffered from the effects of the disease, I determined to have recourse to the solution of the arseniate of potassa. She was accordingly ordered to take one minim of the solution twice a day, to have the whole of the affected parts well anointed every night with a mixture of sweet oil and spermaceti ointment, and to take a bran bath in the morning. After having continued the treatment very little more than a month, during which time she was only obliged to discontinue the arsenic, the dose of which had not been increased, once, and that for a space of four days, the skin had recovered its natural smoothness, which has ever since been preserved by the use of the unction and warm bath.

The only disease amongst the vesiculæ that can ever necessitate the employment of arsenic is *chronic eczema*. This is more particularly the case when this affection, as has already been stated, has assumed a furfuraceous or scaly condition, closely resembling some forms of psoriasis, or pityriasis, and, indeed, in some instances, as Biett has shown, actually passing into these diseases; the scales becoming dry, laminated, and of a whitish, greyish, or yellowish-grey colour; the subjacent skin being red, thickened, cracked, and inflamed; the vesicular element, however, reappearing in the progress towards a cure. However obstinate this form of the disease may usually be, it becomes particularly intractable when affecting certain regions of the body, as the scrotum, labia, and inside of the thighs, and will, when of old standing in these situations, seldom yield to any remedy but arsenic. The following is a case in point:

Mr. W. B. æt. 49, of relaxed debilitated habit of body, applied to me in October last, for a disease of the scrotum, thighs, and breast, under which he had been labouring between four and five years. He ascribed his complaint to his having drank some porter when over-heated, soon after which act of imprudence he experienced considerable irritation about the scrotum and thighs, on which parts a vesicular eruption made its appearance; this was followed by a scaly condition of the parts, and the affection, after a time, spread to other parts of the body, as the arms and chest. He has been subjected to a variety of treatment, and has been salivated twice, but without deriving any benefit. When he applied to me, the scrotum and inner aspect of the thighs were covered by a number of thin, flimsy, yellowish-grey scabs, from under and between which an occasional exudaton of a serous fluid took place; the subjacent skin was red, inflamed and fissured, and there were several patches of a similar character upon the chest, occupying a space of about the size of the hand, as well as one on the arm. The itching and tingling in the affected parts were severe; so much so that it was with difficulty that he could keep his hands from tearing them. When I first saw him his mouth was sore from the effects of some mercurial that had been ordered by the physician who last attended him, and by whom he was sent to me. He was, therefore, in the first instance, merely directed to take some aperient medicines, and to make use of soothing applications to the affected parts. On the 4th November he was put upon a course of Fowler's solution, beginning with two and a half minims twice a-day, and increasing the quantity up to six minims three times a-day: this was continued, with two intermissions on account of constitutional disturbance, up to nearly the end of December, when the disease was entirely cured. The external applications that were had recourse to were, in the first instance, the ointment of the white precipitate, which was, as the disease became more passive in its characters, changed for that of the biniodide of mercury, diluted with four parts of spermaceti ointment.

Useful as the solution of the arsenite of potassa unquestionably is in cases

similar to the preceding one, it is equally serviceable in dry chronic eczema affecting other parts of the body, as the following instance will illustrate.

Eliza Penny, æt. 16, of a lymphatico-bilious temperament, came under my care on the 17th November, 1842, for a disease of both arms, under which she had laboured from the very earliest infancy (from the age of three months). The affection in question was clearly eczematous. The diseased integument appeared thicker and rougher than natural, was covered with flimsy exfoliations of the epidermis, was exceedingly irritable, itching and tingling to an intense degree when the patient got warm, and was much fissured about the bends of the elbows and wrists. There was every now and then an exacerbation of the disease with a distinct eruption of vesicles. The patient complained much of languor and lassitude, was pale, or rather sallow in complexion, and menstruated somewhat irregularly. She was ordered the diluted mineral acids internally, with the oxide of zinc ointment to the affected parts, and the pil. aloes cum myrrha, to regulate the bowels and menstrual functions. Under this plan of treatment the general health improved somewhat, and the irritability of the affected skin was subdued. She was then, on the second January, ordered to begin the solution of the arsenite of potassa in two-minim doses; these were gradually increased to five, and subsequently to seven and a half minims, three times a-day; this she continued for the space of two months and a half, until the middle of March, without being obliged to intermit its use for a single day, at the expiration of which period the arms had assumed a healthy appearance, the skin being smooth, soft, and supple, perfectly free from scales, and without any harshness; it was, however, owing probably to the very long time it had been diseased, of a yellowish or tawny color, darker than that of the rest of the body. The only external applications used were, in the earlier stages, the ointment of the oxide of zinc, with occasional fomentations during the exacerbations of the disease; these were followed by the ointment of the white precipitate, and subsequently by a lotion of the sulphuret of potassium, in the proportions of a drachm of the salt to a pint of water. The local disease was not only cured, but the general health very decidedly improved by the administration of the arsenic; the patient having gained flesh and strength, acquired a good colour, and declared herself to be in better health than she had ever enjoyed.

It is but seldom that we meet with cases of the pustular diseases that require the administration of arsenic. Biett and Rayer, however, both state that they have occasionally found it necessary to have recourse to this remedy in some very chronic and rebellious forms of *impetigo*. Gibert relates two cases of *impetigo* of the face which had existed from infancy, and which Biett cured by means of Pearson's solution, after many other plans of treatment had been employed without success. These cases are nevertheless very rare, but when they do occur it will be requisite to attend to those different circumstances that have already been mentioned as indicating, or contra-indicating, the exhibition of this metal.

Useful, however, as arsenic may be in many diseases of the skin, it is in the treatment of the squamous affections, more particularly of long-standing cases of *lepra* and of inveterate *psoriasis*, that it is incontestibly of the greatest service. For it is by no means rare to meet with cases of these diseases, which obstinately resisting, perhaps for years, milder methods of treatment, will in the course of a few weeks yield to the judicious employment of the preparations of this metal, the utility of which in this class of affections is so fully established by most dermatologists that it is almost needless to insist upon it. It was, indeed, the success that attended the employment of arsenic in the squamous diseases that first led to its introduction into practice as a most valuable remedy in other affections of the skin. But, notwithstanding its utility in this class of diseases (the squamous), it is not admissible in every stage of their progress, nor indeed is it required in the great majority of these cases; far from it: it is only in very extensive and obstinately rebellious forms of these complaints, or when the patient is suffering some very positive inconvenience from the disease, that we should be justified in administering it, and then only in the absence of those circumstances that have already been pointed out as contra-indicating the administration of arsenic in other affections.

With regard to the stage of *lepra* and *psoriasis* in which the preparations of this metal may be administered, it should be laid down as a rule that they should not be given until the disease had assumed a decidedly chronic, inactive character. So long, indeed, as there is any inflammatory redness, heat, or irritation about the patches, they should never, under any circumstances, be employed, as the stimulus of the arsenic would almost infallibly augment the severity of the disease; besides, during the earlier periods of the complaint, we should probably be able to effect a cure by other and less heroic measures. It is only, then, in very long-standing cases of an extensive and indolent squamous disease, in which all other means of treatment that are likely to benefit have been employed without success, that these remedies should be given. And even then, as Rayer justly remarks, as these diseases frequently exert no evident ill effects on the constitution, the inconvenience they occasion being but very trifling, it will be advisable to confine the treatment to a palliative one, unless the patient positively insist on some active measures being adopted, when we should not hesitate to have recourse to the employment of the arsenicals, due attention being paid to the temperament of the individual, and to the state of his digestive organs.

In the majority of cases of lepra or psoriasis, Fowler's solution will, I think, be found the most useful preparation of arsenic that we can employ. The liquor of the hydriodate of arsenic and mercury has been very successfully exhibited in cases of this description, as has also the iodide of arsenic, either alone, or, if the disease be of a syphilitic nature, in combination with the biniodide of mercury and extract of conium. Instances illustrative of the value of these preparations have been adduced in a former part of this paper. The "Asiatic pills" were strongly recommended, and, according to Cazenave and Schedel, employed by Biett with advantage, in cases of psoriasis inveterata: they are, however, open to the objection of being less manageable than the other preparations of arsenic.

When these remedies are about to exercise a beneficial influence in cases of lepra and psoriasis, it will be observed that an increased action appears to take place in the diseased cutis, which becomes red, inflamed, and irritable; the scaly patches then appear to heal up, either from the centre or the circumference, according to the nature of the affection, whether it be lepra or psoriasis, and eventually fall off, leaving the subjacent skin red, smooth, shining, and covered by thin epidermic exfoliations, which may usually be readily cleared off by stimulating topical applications, such as the ointments of tar, or of the nitrate or the biniodide of mercury; after which nothing but a red stain will be left in the site of the squamous patch. And this will soon disappear if the remedies be persevered in, which they should always be, until this blotch is entirely and effectually removed; for, until this be accomplished, the disease will be very liable to return; indeed, it is from a want of due attention to this very important circumstance, that the arsenical preparations have been so often accused of effecting merely temporary cures. We must not be content with removing the scales merely, which are secondary phenomena, but we must get rid of the primary lesion, that peculiar inflammatory or congested state of the blood-vessels of the cutis, which, by giving rise to an increased and morbid secretion of the epidermis, is the proximate cause of the scaly diseases.

From amongst many cases of squamous disease in which I have seen the preparations of arsenic employed with advantage, I shall only mention one, which is remarkable for the very short time in which an hereditary affection of thirteen years' standing yielded to the administration of Fowler's solution.

Sarah Partons, ætat. 29, of lymphatico-sanguine temperament, being stout, rather pale, with gray eyes and light brown hair, came under my care on the 12th January, for psoriasis of the legs, arms, knees, and elbows, of thirteen years' standing. Her father and brother (who is now under my care) labour under the same disease. There are a number of patches of psoriasis, varying from the size of a sixpence to that of a crown piece, about both legs and arms, and a few on the back. Immediately below the left knee there is one as large as the palm of the hand, and the points of both elbows, but more particularly

the left one, are covered by thick scaly incrustations, extending some way down the posterior aspect of the fore-arm. The diseased patches were in a very indolent condition, there being no inflamed areola about them, and being unattended by any tingling or itching. The general health was good, and there were no dyspeptic symptoms of any kind. As the disease was of such long standing it had been subjected to a great variety of treatment, and she had been a patient at two of the metropolitan hospitals, at one for a period of eight months, without receiving any benefit. I therefore, as she was very anxious for a cure, determined to try at once the effect of arsenic, and accordingly ordered her two-and-a-half minims of the solution of the arsenite of potassa twice a-day; the biniodide of mercury ointment diluted with three parts of ung. cetacei, to be rubbed into the diseased patches night and morning. The quantity of the solution of the arsenite of potassa was gradually increased until the 27th, when she was taking seven and-a-half minims three times a-day. By this time the diseased patches on the arms, and some of those on the legs, had been cleared of their scales; the affected skin was, however, redder than natural, and rapidly covered itself with scales of epidermis if the use of the ointment was interrupted. On the 28th, some constitutional derangement, as headache, lassitude, pain in the eyes, and thirst, came on: the solution was accordingly discontinued. On the 4th February, it was resumed in doses of five minims three times a-day, which quantity was continued without any disturbance, either local or constitutional, until the 10th March, when, as the disease appeared to be entirely cured, with the exception of a red stain as it were, of the skin in the site of the affected patches, the dose of the solution was diminished to three minims, which quantity was continued, in order to prevent a relapse, until the end of the month. The ointment of the biniodide of mercury had been persevered in during the whole of this time, its strength having been increased to equal parts of the ointment of the Pharmacopœia and of spermaceti cerate.

It may, then, be concluded, from what has been stated in the preceding pages, that the administration of such powerfully stimulating tonics as the preparations of arsenic, should be guided by the same rules that govern the exhibition of this class of remedies generally. We should avoid using them, not only in certain kinds of diseases, but in any affection so long as there is any inflammatory action of an active nature going on about it; in persons of a plethoric habit of body, or of a sanguine or sanguineo-nervous temperament; and more particularly in those in whom there exists any irritation about the gastric mucous membrane, or any other inflammatory disease; and only administer them when the cutaneous affection occurs in an individual of a relaxed, debilitated, or lymphatic habit of body, when it has fallen into an indolent, passive state; and, more particularly, if it be a squamous disease, or if it have assumed a furfuraceous aspect, and can bear, without being permanently irritated, the application of a mild topical stimulant. If the administration of arsenic be regulated with a due regard to these circumstances, the doses being slowly and gradually increased, there is no reason why its exhibition should be attended with worse consequences than that of antimony, mercury, strychnia, or of any other very active remedy which we are in the daily habit of prescribing, without any fear as to the effects that it may produce upon the system. There can be no question, however, that very injurious effects have resulted from the injudicious administration of the preparations of arsenic in too large doses: but the consequences of the abuse of any medicine are not fair arguments against its careful and guarded administration; and I feel convinced that arsenic may be exhibited with as much safety as any other powerful tonic in the Pharmacopœia, provided due discrimination be shown in selecting the cases to which it is to be given. And it is by regarding the preparations of this metal in the light of *specifics* to be resorted to indiscriminately in the treatment of every obstinate and rebellious affection of the skin, without attention to the nature, stage, and complications of the disease, or to the habit of body and temperament of the individual in whom it occurs, that much mischief has resulted from, and opprobrium been cast upon, a very valuable remedy.—*Med. Gazette, May* 19, 1843, *p.* 241.

2.—TREATMENT OF FEVER, HOOPING-COUGH, RHEUMATISM, NEURALGIA, AND CHLOROSIS.—By CHARLES COWAN, M. D., E. & P., Physician to the Royal Berkshire Hospital, &c.

[The reader will find in these valuable and practical reports of private medical practice, by Dr. Cowan, a large mass of very valuable information on different cases which may come before him in daily practice. We have been particularly pleased with their practical nature, a feature in reporting cases which is but too seldom met with. In his reports of fever cases, Dr. Cowan has not said much respecting his own practice, as the type of fevers in his own neighborhood of Reading has seldom been found severe; but he has taken pains to collect the experience of others, which is as follows:—]

We shall now briefly advert to the experience of others in the treatment of fevers, selecting that which may not have sufficiently attracted the student's attention. A surgeon in extensive practice has found the following powder very advantageous in 140 cases of simple fever, continuing its use until the gums were slightly affected:—

℞. Nitrate of potash, four grains; tartrate of potash, a quarter of a grain; mercury with chalk, five grains. Mix. Repeated every four hours.

And in all fevers of a low type he was convinced of the benefit of the saline treatment. His formula was—

℞. Chloride of soda, three drachms; carbonate of soda, two drachms; hydrochloric acid, half a drachm; camphor mixture, six ounces. Mix. Half an ounce every hour.

He founded his experience upon notes of 120 cases.

In reference to the use of mercury, Dr. Macartney says, "In no single instance have I known mercury fail in arresting the progress of fever, provided it be not combined with visceral affections or characterised from the beginning with great prostration of strength."

Mr. R. Stevens (Lancet, 25th June, 1842) asserts the value of mercury in all contagious diseases, and he has met with more than ordinary success since employing it in the treatment of fever.

Dr. Elliotson, and many other writers, speak favourably of the mild use of mercury in this disease; and when the type was inflammatory it might, perhaps, be always judiciously prescribed.

Mr. George Ross, of Enfield (*vide* "Lancet," March 4, 11, and 18, 1843), in some very interesting and able observations on fever, well worthy of careful perusal, strongly recommends the employment of ipecacuanha emetics, followed by fifteen to thirty grains of calomel, and an equal quantity of jalap, four hours afterwards. This is repeated on the recurrence of exacerbation of the symptoms, which assume in almost every case a quartan type, two or three times, and neither excites excessive purging or any inconvenient constitutional disturbance. The quantity of calomel necessary seldom exceeds a drachm; the effect is quickly beneficial, the convalescence rapid, and the duration of the complaint curtailed. He objects to repeated small doses of mercury, as more distressing to the patient, more likely to excite intestinal irritation, and much less successful in the result. He thinks well, though lesss favourably, of the saline treatment, and in intractable cases would administer the nitrate of potass in doses of ten to twenty grains three times a-day. We again refer the reader to Mr. Ross's excellent paper.

In the "Lancet" for December 14, 1839, some very interesting results on the use of salines are given by Dr. Jordan Lynch. He practised in the worst districts of London, and states that his successes, after employing the following treatment, exceeded his most sanguine expectations. After premising an emetic, and a brisk purge of calomel and rhubarb, or jalap, he gave a solution of three drachms of common salt to the pint of water in the twenty-four hours, the patient drinking largely of cold spring water, adding to the mixture a drachm of muriatic acid as the symptoms improved, with effervescing soda powders till convalescence was complete, supporting the strength with beef tea and porter

The acid effectually checked the diarrhœa. Out of 97 cases not one died, and recovery, he says, took place in as many days as it required weeks on the ordinary plan.

Dr. Copland, in his elaborate article "Fever," par. 596, says, "The chloride of soda is a valuable medicine in all the typhoid forms of fever when judiciously prescribed;" and Chomel, who gave it an extensive trial, states that it has proved more successful in low fevers than any other means, when perseveringly employed. Drs. Graves and Stokes also think highly of it in petechial fever.

Dr. Wilson, of the Middlesex Hospital, adopted Dr. Stevens' saline treatment, with great advantage, during the prevalence of petechial fever in 1837. The patients were all put into a warm bath and washed with soap, the head shaved, and cold applied if necessary. The following powder was given in water every four hours:

℞. Carbonate of soda, half a drachm; chloride of sodium, one scruple; chlorate of potass, six grains. Mix.

If this were refused, a drachm of the chlorate of potash in a quart of water was given for drink in the twenty-four hours. In some severe typhoid cases, where active treatment was inadmissible, in addition to wine and beef tea, Dr. Graves gave carbonate of soda, one scruple; nitrate of potash, ten grains, every three hours, with great success.

Dr. Furnival, in his work on consumption and scrofula, says, "In the middle or even later periods of typhus, I must bear testimony to the great efficacy of large doses of the sesquicarbonate of soda alone, every four hours, either in water or some tonic effusion. It is surprising how soon the tongue will clean and the collapse give way."

Dr. Bright speaks favourably of a similar plan, and the common effervescing draughts, prescribed as simple refrigerants, may be more actively useful than the prescriber suspects.

Among the German writers there is extensive evidence in favour of the hydrochlorate of ammonia in putrid adynamic fevers, and a very general preference has been attached by writers of all classes to combinations in which chlorine plays a part. Indeed, the compound recommended by Dr. Stevens is probably resolved in the stomach into the muriates of soda and potash. The nitrate and chlorate of potass are also particularly deserving of trial.

The above practical testimonies in favour of the saline treatment of fever are more than sufficient to entitle the subject to the student's serious consideration; though the value of such treatment is practically demonstrated, the theory is not free from much painful obscurity, but some additional insight into the possible modus operandi of such remedies may be gleaned from Professor Liebig's researches on the influence of soda on the decomposition of our tissues and in the formation of bile.

If continued fever may be regarded in all instances as the result of a morbid poison in the system, either imbibed from without or generated within, and that its phenomena are functional efforts for its elimination or disturbances kept up by the presence or reproduction of the exciting cause; in either case it is easy to conceive how remedies of the class now alluded to might prove useful, either by facilitating the excreting act where the poison is not reproduced, by stopping the fermenting process, by neutralizing the morbid agent itself, or modifying the element of the blood which is essential for its continued transmutation. There can be little doubt that a more accurate knowledge of the chemical changes induced, would admit of equally accurate remedial appliance; but at present we are almost limited to empirical experiments, and more indebted to practice than to theory for our successes. Hence the importance of being acquainted with what others have beneficially tried. It is not easy to say whether the efficacy of the saline treatment depends on the base, the acid, or the salt. Considerable evidence might be adduced of the utility of mineral acids as well as salts, and the apparent contradiction in the means may be the simple result of our ignorance. The acid may be the effective agent when administered in a combined as well as a free state; and the favourable results ascribed to both

may depend upon their correct but empirical application to fevers of a particular type.

Dr. Paris states that in the Westminster Hospital a drachm of the muriatic acid combined as a drink has been given for many years in typhus fever with evident advantage; and in the "Lancet" of 23d January, 1841, a very strong statement is made by Mr. Alqhuen, of the value of the oxymuriatic acid, when freely administered under similar circumstances. Huxham, Fordyce, Frank, Hufeland, and many others, unite in the recommendation; but both theory and practice preponderate as a general rule in favor of the preceding class.

Dr. Buzorini (Brit. and For. Med. Rev., Oct., 1839), thinks that ipecacuanha possesses a specific power of exciting the nervous system. It increases all the excretions, moderates the alvine discharges, diminishes restlessness and delirium. Dr. B. founds his opinion upon ten years' experience, and advises its being given in infusion in the proportion of one or two scruples of the root to five or seven ounces of water. Dose, half an ounce every two, three, or four hours. In influenza, and fevers with bronchial complication, especially in children, it might prove a very useful and cheap practice.

Frank's celebrated fever powders consisted of tartar emetic, six grains, and bitartrate of potash, half an ounce, divided into six powders, and one given every hour.

A provincial physician in extensive practice, and with keen observing powers, attributes great benefit to the following formula in all cases of severe febrile disturbances, eruptive or otherwise:—

℞. Liquor of the acetate of ammonia, five ounces; potassio-tartrate of antimony, six grains; syrup of poppies, or of ginger, one ounce; tincture of opium, one drachm; spirit of nitric æther, six drachms. Mix. Half an ounce every one or two hours.

It excites vomiting, and then purges and sweats.

Against headache in congestive fever the formula of Raspail has been much vaunted:—

℞. Liquor ammoniæ, one ounce; distilled water, nine ounces; chloride of soda, five scruples; camphor, ten grains. Adding any agreeable scent.

A piece of linen to be steeped and applied over the part, carefully protecting the eyes by a thick bandage above the brows. The action is often rapid, the pain ceasing in fifteen to thirty minutes. It ought to be reapplied at the commencement of the paroxysm, and is also very valuable in other local congestive conditions. M. R. thinks there is a peculiar chemical change excited in external applications depending on the nature of the local action. Before concluding we would just allude to the use of belladonna for the relief of head symptoms with *contracted* pupil, as recommended by Dr. Graves, and to the good effects of emetic tartar and opium in cases of cerebral congestion, as stated by the same observer. Dr. Stokes' excellent observations on the indications for the use of wine in fever, being founded on an examination of the heart rather than the pulse, are also of a truly valuable and practical character. [Dr. Cowan's epitome of the experience of the best writers on *Hooping Cough*, and a variety of other diseases, is equally good.]

The popular and professional catalogue of remedies for hooping-cough is both lengthened and varied, proving the usually obstinate nature of the disease. It cannot, however, be doubted that particular combinations have at times been attended with more than ordinary success; and it is the part of sound wisdom to treasure up these evidences of remedial triumphs, since circumstances may arise in the practice of all, where we are baffled in the application of our general principles, and are glad to resort to more specific and empirical means. There is, no doubt, a tendency in most minds to place exaggerated reliance on particular remedies, and to attach to them results which are attributable to the natural progress of the disease; but, on the other hand, it is possible to underestimate their value, and to adhere too obstinately to imaginary principles. Success is, after all, the best test of being right, though it is often very obscurely obtained; and in the practice of our art we are frequently compelled to be

content with results apart from their explanations, and to submit to failure where our theory seems most complete.

Dr. Thompson considers prussic acid his sheet anchor, gradually increasing the dose, and combining carefully regulated temperature with a milk and vegetable diet. He says the disease seldom resists more than four to five weeks.

When the acute symptoms have subsided, the following extensively used formula of Dr. Beatty, of Dublin, recommended by Dr. Graves, has proved very useful:

℞. Compound tincture of bark, five ounces; tincture of lytta, tincture of camphor, of each half an ounce. Mix. A tea spoonful three times a-day in linseed or barley tea.

Above five or six years of age the dose may be increased one third daily until half an ounce is taken.

The liquor arsenicalis, in decoction of bark, is favourably mentioned; and in the second volume of the "Provincial Transactions," p. 412, a combination of the tincture of lytta with the tincture of lobelia is stated to have proved successful.

Belladonna, by liniment, plasters, and internally, is undoubtedly a valuable agent. Dr. Waldeck, of Berlin (Bul. Gen. de Ther., 1838), gave from one-tenth to one-twelfth of a grain for a dose, and speaks very positively in its favour. Dr. Lombard, of Geneva (French "Lancet," 9th June, 1838), mentions as a sure symptom of the decline of the disease, the greater frequency of accesses during the day than night, and *vice versa*. He speaks highly of the sesquioxyde of iron in diminishing the number and violence of the fits, giving twenty-four to thirty-six grains a-day in divided doses. Dr. Steymann ("Bul. Gen. de Ther.," March, 1838), brings forward similar evidence.

Dr. Crossley Hull's great remedy in all cases, was powdered alum, which he prescribed in a little water eight times a day, beginning with ten grains, to be increased two grains each dose till twenty are reached, which was then continued till the cough had ceased, which he states was the case generally in a week or less. The above doses are for young persons, about fourteen; adults may increase the dose to twenty-six grains. Infants are to begin with four or five grains, increasing two grains a dose to fifteen. No other medicine was given; milk to be avoided.

Dr. Reece strongly advises a warm irritating plaster to the chest, and the following medicine:

℞. Tincture of assafœtida, one drachm; tincture of opium, ten minims; powder of ipecacuanha, ten grains; water, two ounces. Mix. A tea spoonful every three hours to a child two years old, increasing the dose ten minims for every year.

When this fails, the two following formulæ are (too) highly praised:

℞. Powdered leaves of conium, one scruple; mint water, two ounces; syrup, two drachms. Mix. A tea spoonful three times a-day to a child of any age, adding ten minims to the dose, till nausea and giddiness are felt.

℞. Di-acetate of lead, four grains; syrup of poppies, two drachms; fennel water, two ounces. Two tea spoonsful to a child from two to ten years every five hours; half an ounce for an adult.

It is said to cure generally in three days (?). There is other confirmative evidence in favour of lead in this disease, and a formula in combination with conium is given in our report of the Reading Pathological Society for 1842.

Mr. C. H. Chavasse ("Lancet," May 30, 1840), speaks highly of the following formula:

℞. Sulphate of copper, half a grain; syrup of poppies, half an ounce; anise water, an ounce and a half. Mix. A tea spoonful to be taken every second or fourth hour, according to the age.

Sir William Watson's celebrated prescription was—

℞. Tartar emetic, one grain; tincture of opium, twenty minims; distilled water, one ounce. Mix. A tea spoonful every, or every other night.

Mr. Pearson, after premising an emetic, relied much upon—

℞. Tincture of opium, one minim; ipecacuanha wine, five drops, carbonate of soda, two grains; water, half an ounce. Make a draught, to be taken every four hours.

Dr. C. Wachtl, of Vienna (*vide* Provincial Journal, Jan. 21, 1843), has found Cochineal very useful in rapidly checking the paroxysms.

℞. Cochineal, ten grains; bitartrate of potash, one scruple; sugar, one ounce; water, six ounces. A tea spoonful every four or six hours.

It is an old and popular remedy.

The following is Roche's far-famed embrocation:

℞. Olive oil, one ounce; oil of cloves, half an ounce; succinum oil, half an ounce. Mix.

We are not the advocates of one or all of the above, but think their occasional efficacy sufficiently attested to justify their use in particular cases.

Prov. Med. Jour., May 13, 1843, *p.* 124.

Rheumatism.—The hydriodate of potass was given in 52 cases, in average doses of five grains three times a-day. In no instance was either bleeding or leeching prescribed. The action of iodine in rheumatism is, on the whole, satisfactory; in many cases it may be regarded as heroic, while in others not *a priori* distinguishable, almost negative. After examining the experience of different observers, we are inclined to suspect that we have often erred by the smallness of the dose, and think it probable that the quantity should in some cases be increased to the point of tolerance, the rheumatic element, so to speak, varying in amount and intensity in different individuals. The value and uses of colchicum have long been recognised. Mr. L. Wigan, of Brighton ("Med. Gaz.," June, 30, 1838), confidently asserts the following mode of using this remedy to be heroic, in proportion as the case is violent and recent. Eight grains of the powdered colchicum root (preserved by being kept ground to an impalpable powder with twice or thrice its weight of white sugar), are given *every hour*, in water, or ginger, or apple tea, until vomiting, purging, or profuse perspiration take place, or at least till the stomach can bear no more. If nausea is felt after three or four doses, he stops a quarter of an hour, and gives brandy on sugar or soda water, when the medicine is again continued. The usual quantity supported is eight or ten doses; the maximum fourteen; the minimum five. After six or seven doses a slight nausea comes on; but by keeping quiet, with something in the mouth, three or four more doses might be received, when perhaps the disgust becomes unconquerable. After this there is generally sound sleep, with occasional nausea on waking. The pain ceases, but the more active effects of colchicum do not take place for some hours after the last dose, and after a few hours more is succeeded by "Elysium." The inflammation of the joints subsides, and they resume their size with miraculous rapidity. The acidity of the perspiration ceases as well as the peculiar odour. As soon as a cup of souchong tea can be obtained, a sound sleep comes on, from which the patient awakes perfectly well. When enabled to do so, Mr. W. prefers giving a breakfast of bread and butter and tea only, very early in the morning, and two hours afterwards to commence the colchicum. Nothing more but tea, and bread sopped in it during that day. It is well to indulge the returning appetite very sparingly on the day following, on which we may allow a small snap of devilled meat and rice, with a little curry, if desired. Afterwards the patient may resume his ordinary diet as soon as his appetite indicates it. Mr. W. has never known a relapse, and strongly urges the practice. We confess to have some doubts of the safety of this plan, unless in robust subjects and in a very acute form of the disease; Mr. W.'s statement is, however, very interesting, and well deserves attention. If confirmed by other practitioners, it will furnish us with a valuable means of combating violent and acute rheumatism.

Dr. Davis ("Lancet," June 16, 1841), says that the duration of the disease, under the following plan, does not exceed a week in the majority of cases:—Bleeding from the arm to faintness, succeeded by an emetic of ipecacuanha

and tartar emetic, and in five or six hours by a purge of calomel and jalap; after this he gives a scruple to half a drachm of powdered yellow bark, every three or four hours. This is similar to Haygarth's plan, and has the sanction of very varied experience.

The late and much-to-be-lamented Dr. Hope, after six years' experience upon 200 cases, gives decided preference to the following plan: After one, or even two, full bleedings in the robust, he gave seven to ten grains of calomel, with one or two of opium, at night, a draught with fifteen to twenty minims of colchicum wine, and five grains of Dover's powder in saline mixture, three times a-day. It was seldom necessary to repeat the calomel more than from two to four times, after which he continued the opium at night, with the colchicum draught and a senna laxative every morning. The patient was almost always well in a week, and able to commence his work in seven to ten days after the pains had ceased. Ptyalism was avoided unless the heart was involved. In chronic cases he gave five grains of calomel, and one of opium, at night, for five or six times, with the senna and colchicum draught as before. Local depletion with some form of counter-irritation were usually employed.

In the acute stage Dr. Graves principally relies on bleeding, with large doses of tartar emetic and nitre, and in less urgent cases, particularly if complicated with bronchitis, he has derived much benefit from the following mixture:

℞. Almond emulsion, eight ounces; vinegar of colchicum, half an ounce; acetate of morphia, one grain; nitrate of potash, half a drachm. Mix. Half an ounce every hour or every two hours.

If colchicum does not relieve in two or three days we must have recourse to mercury.

Dr. Pitschaft has for twenty years employed mercury, preferring the red precipitate, in doses of one-eighth to one quarter of a grain twice a-day, combined with opium if the system be irritable.

Dr. Christison, after premising bleeding, thinks that keeping up perspiration by frequent doses of Dover's powder for 36 to 48 hours is an admirable plan. Purging must be avoided till the sweating is over, nor is the plan so successful if commenced later than the fourth day.

Dr. Macleod advises bleeding from twelve to thirty ounces during the first week, giving three to five grains of calomel at night, and a senna purge in the morning. Opium to the extent of two grains in the twenty-four hours is often useful, and the guaiacum is recommended as the best after-treatment. In lumbago Dr. M. thinks well of a brisk calomel purge once or twice a-week as above, and considers half a drachm to two drachms of the compound tincture of guaiacum three times a-day, with a grain of opium at night, the best plan.

Dr. Marryatt's principal remedy against lumbago was half an ounce of the compound tincture given at bed-time, with other means adapted to promote diaphoresis.

In the "Lancet" for Nov. 16, 1839, Mr. Henry Rees says, "In all cases of acute rheumatism, the diet should be strictly regulated; avoid rigidly beer, wine, spirits and animal food. Milk, beef-tea, butter, eggs, fish, &c., are all pernicious. This theory is that the disease depends on an excess of nitrogen.

In very urgent cases bleeding and mercury may be necessary, but he regards the hydriodate of potass as certain an antidote to the rheumatic diathesis as mercury is to that of syphilis. Its combination with liquor potassæ acts, he says, like a charm in rheumatic iritis.

Dr. Hughes ("Medical Gazette,") never found it necessary to bleed. He gave a pill of opium and antimony at night, repeating it two or three times daily, if the pain was urgent. Calomel was only used when the inflammatory symptoms were severe. Half a drachm of the colchicum wine, with a drachm of the sulphate of magnesia, was given three or four times a-day, producing, after two or three days, copious liquid yellow evacuations, with evident relief, when he immediately ordered decoction of bark with soda. In a few days the patient was well.

In the report of the Worcester Infirmary it is stated "that emetics of tartarised antimony, administered at the commencement, have cut short the disease in acute cases."

Mr. Horne ("Lancet," December 10, 1842,) speaks very favourably of the following mixture :—

℞. Nitrate of potash, half an ounce; potassio-tartrate of antimony, two grains; spirits of nitric æther, one ounce; water, twelve ounces. Mix. A wine-glassful three times a-day.

He also strongly recommends the external use of a strong solution of the hydriodate of potass when the joints were implicated—a hint worthy of trial. The same lotion he has found serviceable in neuralgic pains.

Dr. Brocklesby, in 1764, first directed attention to the value of nitre in large doses, giving as much as ten drachms in the day and night. Mr. W. White, in 1774, confirmed its value, carrying the maximum dose to twelve drachms. In 1833 the same practice has been revived by Messrs. Gendrin and Solon. Sixteen cases are recorded, of which the average period of treatment was eight days. The mean quantity of the salt given in one day was one ounce in three quarts of water; the total average quantity, eleven ounces. They advise commencing with two drachms and a half in a quart of fluid.

Twelve successful cases are recorded by M. Arran ("Gaz. Med.," March, 1841,) where the mean dose was thirty-six grains in three pints of fluid, and the average total quantity 374 grains. The mean duration was eight days.

We suspect the above doses to be excessive, and believe M. Arran's practice the most reasonable and prudent. Such evidence is illustrative of the differences prevalent among practical men as to the necessary doses of medicine. There are enthusiastic givers as well as takers of physic.

Dr. Corrigan, in a very interesting paper in the "Dublin Journal," asserts that the treatment of rheumatism by large doses of opium shortens the duration, diminishes suffering, husbands strength, and lessens the tendency to complications. It is important that full and sufficient doses are employed, increasing them in amount and frequency, until the patient feels decided relief, and then continuing the same dose until the disease has steadily declined. The mean quantity given in twenty-four hours was from ten to twelve grains, but it often amounted to more than double. It does not affect the cerebral function, and, as we have more than once observed, in some cases excites diarrhœa. The average duration of treatment was nine days. The plan is not adapted to gouty subjects. Warm embrocations, with turpentine, or camphorated spirits, were employed. Against the consequent stiffness he advises frictions, with half an ounce of camphorated oil and turpentine, and a drachm of sulphur. In cases with sweating, erratic pains, and quick small pulse, the combination of quinine and opium is admirable. Other practitioners have confirmed Dr. C.'s experience; and his suggestions, though not absolutely novel, possess great practical interest.

Dr. Busse, of Berlin, in a monograph upon the subject, advocates the value of Richter's treatment both of acute and chronic rheumatism. He gives from fifteen to sixty drops every two hours of the following solution :—

℞. Extract of aconite, four scruples; antimonial wine, three ounces two drachms. Mix.

It excites diaphoresis without distress, and relieves pain. The evidence in its favour is very strong.

Dr. J. B. Watkins, of Philadelphia ("Medical Examiner," No. 33), also speaks in favour of the extract of aconite. It may be given in doses of one-fourth of a grain three times a-day, to six grains, or even more, daily.

Mr. Curtis, of Camden-town ("Medical Gazette," April 1, 1842), recommends an anconite plaster, made by evaporating four ounces of the tincture to the consistence of oil; this quantity to be spread with a brush on half a yard of adhesive plaster.

Dr. Osborne ("Dublin Journal," June 1, 1840), remarks that belladonna causes an immediate cessation of the migratory pains, without benefitting those which are fixed. The dose is one-third of a grain three times a-day, increased to one-half every three hours. Its effects seem limited to muscular pains.

Dr. Hosack ("Practice of Physic," p. 672) considers the following pill a good diaphoretic stimulant in chronic cases :—

Guaiacum, six drachms; camphor, one drachm; opium, two drachms; potassio tartrate of antimony, one drachm. Mix. To be divided into 120 pills, two three times a-day.

Cases occur, says Dr. Watson ("Medical Gazette," July 18, 1842), which are not absolutely acute or chronic. There is some fever, the joints are affected, the skin dry, thirst, the urine loaded with little deposits, and strongly *acid*. In this state alkalies are of great use. A drachm of the liquor potassæ daily for several days together, keeping the bowels free, has done more than any other treatment.

Against rheumatic headache Dr. Johnson has found no treatment so successful as the following:—Eight grains of Dover's powder and two of calomel at bed-time on alternate nights for two or three times, followed by a third part of the following mixture the next morning, to be repeated in two hours, if necessary:—

Infusion of rhubarb, three ounces; tartrate of soda, three drachms; powder of rhubarb, half a drachm; tincture of senna, half an ounce; wine of colchicum, a drachm and a half. Mix.

The same observer remarks ("Medico-Chirurgical Review," April, 1838), that many of the most stubborn cases will yield to a course of blue or Plummer's pill, taken at bed-time, and followed by a warm saline colchicum draught in the morning. Flannel clothing, and an occasional warm bath, are valuable adjuvants.

Dr. Paris asserts, that against the muscular atony succeeding to acute disease, ammonia in large doses is the best remedy.

In a very obstinate case, characterised by severe pains, relieved by heat, and unaccompanied by much swelling, occurring in the practice of Mr. John Brady, of London, the following means proved very successful:—

Compound extract of sarsaparilla, six drachms; iodine, half a grain; hydriodate of potash, half a drachm; boiling water, six ounces. Mix. A fourth part three times a-day, with one of the subjoined pills.

Hydrochlorate of morphia, one grain; disulphate of quinine, nine grains; blue pill, ten grains; rhubarb pill, twelve grains. Divide into twelve pills.

M. Briquet has recently addressed a letter to the Academy of Medicine of Paris, stating that large doses of quinine were as successful in rheumatism as in ague. All will not coincide with M. B., and some late experience has proved that an excessive use of this agent is not without inconvenience and danger.

We shall now adduce some evidence in favour of sulphur, which entitles it to the practitioner's serious attention. It is an old but very partially employed remedy, and has now almost descended from the profession to the people.

Dr. Munk states that he employed it successfully in 300 cases. It seemed more effective when combined with the carbonate of soda, in the proportion of two drachms to an ounce of sulphur. Half an ounce of the latter was the maximum quantity in twenty-four hours.

The celebrated nostrum, well known as the "Chelsea pensioner," owes its efficacy to sulphur.

Dr. Law states that in subacute rheumatism there is no one means he has found so generally useful.

℞. Sulphur, one ounce; bitartrate of potash, half an ounce; powder of rhubarb, two drachms; powder of guaiacum, one drachm; powder of musk, one drachm; honey, four ounces. Mix. A dessert-spoonful three times a-day.

If it purge too much, a drachm of Dover's powder to be added. Dr. Graves also praises it, and substitutes the following electuary:—

℞. Powdered bark, one drachm; powdered guaiacum, one drachm; cream of tartar, one ounce; flour of sulphur, half an ounce; powdered ginger one drachm. To be made into an electuary with syrup. A teaspoonful three times a-day.

If it purge too much, we diminish the dose; if constipation exists, we increase it. A tea spoonful of sulphur, with half the quantity of ginger, taken every morning in a glass of milk, has proved very useful. We know a lady

liable to severe rheumatic pains in the scalp, who considers she can at any time cure them by a dose of sulphur at bed-time.

Professor Otto, of Copenhagen, treated four cases, three of which were chronic, with four drops every two hours of a tincture made of two drachms of the carburet of sulphur in half an ounce of rectified spirits. The same quantity, rubbed up with half an ounce of olive oil, was employed as an external embrocation.

Dr. Bardsley, in his "Hospital Reports," page 204, speaks very favourably of sulphureous fumigations in the subacute and chronic forms, citing forty cases as relieved or cured.

In chronic obstinate affections of the joints, rubbing them with castor oil every night, and wrapping the limbs in warm flannels, is extensively employed in the East, and is said to be very successful. ("Lancet," April 8, 1837.)

The external application of colchicum has been strongly recommended ("Lancet," July 29, 1837), and we have ourselves found it useful in cases where the sensibility was great, the pains diffused and recurrent, and the temperature of the part raised.

Painting the surface with tincture of iodine has been found useful. Equal parts of the compound camphor and soap liniments, with laudanum, is a good form of embrocation; and in cases of severe local suffering, the following ointment has succeeded in allaying pain:

℞. Veratria, half a drachm; opium, one drachm; lard, one ounce and a half. Mix.

The endermic application of morphine is also worth remembering.

On a review of the preceding rather long list of authorities and plans, it would appear that the principal remedies against rheumatism are the iodide of potassium, mercury, colchicum, opium, sulphur, and nitrate of potass, and probably the skilful employment of one or more of these would effect all in the power of our art to accomplish. It would have been easy to have multiplied our researches, and brought together a much larger amount of practical experience, but we have intentionally restricted ourselves to our own gleanings, and purposely avoided making use of the labours of professed writers upon the subject. To these the student has easy access, but perhaps he may find that his time has not been wasted in perusing our less methodised and more fugitive efforts.

Neuralgia.—The following is the formula of Rauque's celebrated liniment, and we have found it in several instances a valuable and powerful application:

℞. Extract of belladonna, two scruples; laurel water, two ounces; sulphuric æther, one ounce. Mix.

Let it be rubbed on the part, and a flannel moistened with it left applied.

Dr. Johnson says, that steeping two or three folds of lint or rag in the liquor ammoniacæ, and enclosing them in the top of a wooden pill-box, and applying it to the skin from one to two minutes, is a very valuable means of counter-irritation, producing a crop of vesicles, and requiring no subsequent dressing.

The endermic application of morphine is very strongly recommended by Dr. A. T. Thompson in all cases where pain is the prominent symptom. Dr. T. employs the hydrochlorate, mixing one or two grains with six of sugar, and sprinkling it on the denuded blistered surface twice a-day. To affect the *general system*, the nearer it is applied to the head the better. Smaller doses may be used at first. A pustular eruption, often of some severity, usually follows, and is itself a source of relief.

Dr. Richab, of Strasburg ("Lancet," Jan. 13, 1838), attributes great good to one grain of quinine and two of common snuff, introduced into the nostril of the affected side. It has been found to act as a charm, and may at all events be safely tried. Perhaps errhines are too much forgotten in affections of the fifth pair. Frictions with the veratria ointment, or by the endermic method, are doubtless of value, and perhaps failure not unfrequently depends on their imperfect mode of application.

Dr. Churchill advises the following form of plaster:

℞. Carbonate of ammonia, one drachm; extract of belladonna, three drachms.

Pareira speaks favourably of the tincture of aconite rubbed in with a sponge attached to a stick, till the pain ceases. One to three drachms were used at each application. Three minims may be given internally for a dose.

Mr. Jeston ("Lancet," Sept. 29, 1832), after giving one or two doses of calomel and rhubarb, gave—

℞. Narcotine, two grains; dilute sulphuric acid, twenty minims; infusion of roses, one ounce and a half. Every two hours during the intermission.

It frequently arrested the disease at once. The same observer advises colchicum, especially in rheumatic and intermitting pains.

Mr. Baily, of Harwich ("Lancet," April 8. 1837), obtained much credit from the following preparation of belladonna: Macerate for twenty days, two ounces of the dried leaves in a pint of proof spirit. Dose from twenty to forty drops.

M. Valleix, in his elaborate treatise on neuralgia, in addition to flying blisters, quinine, steel, &c., states that much benefit resulted from pills composed of equal parts of henbane, valerian, and oxyde of zinc, given in increasing doses from one to thirty per day.

The hydrochlorate of ammonia, in doses of a scruple to half a drachm, three times a-day, is recommended by the German and some British practitioners, as of great value in cases of facial neuralgia and hemicrania.

Dr. Williams recommended with relief, in a very severe case, twenty to forty drops of Jeremie's Indian sedative, sold by Barclay. A pound of quicksilver laid on the affected eye in oil silk, pencilling the part with Gourlard extract, equal parts of eau de Cologne and sulphuric æther poured on the cheek and forehead, a plaster of opium and belladonna, were also the means of temporary relief. Butler, of 4, Cheapside, sells opium and belladonna tissues, which are said to be more powerfully sedative than the ordinary plasters. Currie powder, made into a paste with brandy, is an excellent remedy for toothache, and forms the celebrated Gregorian paste. When purely nervous, fifteen grains of Augustura bark every four hours has often cured it in a few hours.

Dr. Handel, of Mentz, strongly recommends the following:

℞. Opium, half a drachm; extract of hyoscyamus, camphor, of each six grains; oil of hyoscyamus, one drachm; cazeput oil, tincture of lytta, of each eight minims. Mix.

Insert a little into the tooth as a pill, or on lint.

Dr. Baillie was very partial to three or four grains of the extract of henbane twice or three times a-day in facial neuralgia; and Dr. Warren placed his chief reliance on small doses of blue pill and belladonna. Shaving the head, and washing it with cold water, and the use of the cold douche for two or three minutes on alternate days, has at times succeeded. (Reece.)

In the "Bulletin Gen. de Therapeutique," it is stated that the principle of treatment is to check or mitigate the paroxysm by a full dose of opium and æther, given immediately before the paroxysm, and to administer large and frequent doses of bark during the remission. Ten to fifteen grains of quinine, exhibited after the pain has ceased, will at once make an impression, and often abridge the next paroxysm.

Many very obstinate cases were cured by giving opium until narcotism was produced. (Vide "Prov. Med. and Surgical Journ.," June 19, 1841.) Some were bled during its continuance, and the pain ceased in the majority.

Dr. Christin ("Repert. Med. Chir. del Piemonte," January and February, 1838) speaks highly of the following plan:

℞. Acetate of morphia, one grain; distilled water, four ounces; syrup of acacia, one ounce. Mix. A table spoonful every hour;

when the pain is relieved, and sleep commencing, every two hours, suspending it if narcotism is induced; the patients to avoid fluids during its administration. It often caused perspiration, diarrhœa, and diuresis.

We think well ourselves of small and repeated doses of opium. Dr. Bardsley, in his Hospital Reports, relates several successful cases from the free use of morphine.

Mr. Greenhow read a paper at the meeting of the British Association at New-

Castle, insisting upon the value of inducing *rapid but moderate salivation*, and relates several cases of success. It would, no doubt, prove useful in many cases where the visceral health was principally disturbed. The suggestion is worth remembering.

Dr. Burgess strongly advises ten grains of the extract of aconite made into 12 pills with liquorice powder, and one to be given every two hours, repeating it till the pain was relieved.

Croton oil has also lately been much recommended by Sir Charles Bell and Drs. Newbigging and Allnat, as possessing some specific influence on the ganglionic nerves, apart from its purgative action. Our own experience has not been so strongly in favour of the remedy as these published statements would lead one to anticipate, but our trials are not yet sufficiently multiplied to admit of safe conclusions. It has also been advised in large doses, two minims once or twice a-day, and this dose to be repeated several successive days, so as to keep up fresh purging. We have not met any cases requiring such heroic treatment.

Dr. Bennett ("Lancet," December 21, 1839) has found the iodide of potass of great use in cases of nervous headache, when the circulation was not affected.

Dr. Martinet ("Edinburgh Journal," February, 1842), particularly in cases of crural and sciatic neuralgia, advises the use of turpentine as follows:

℞. White of egg, No. 1, turpentine, three drachms; syrup of peppermint, two ounces; syrup of orange, two ounces. Mix. A table spoonful three times a-day, adding laudanum if sickness is present.

In most instances the pain has ceased in a week.

A drachm of creosote to the ounce of lard has been strongly recommended as a local application.

Magendie has found great benefit from inserting two platinum needles in the nerve, and passing the current from Clark's electro-magnetic machine, connecting the positive pole with the needle nearest the origin of the nerve. If the pain shifts, we must follow it in the affected branch. The mode of using electro-magnetism is not without importance. We found, by experiments on a recently amputated limb, that the wires applied to the dry skin produced very little effect. If the surface was moistened the contractions increased, but less so than when the wires were inserted beneath the skin. If the current was gentle, the effects were limited to particular muscles; but if active, the whole limb was affected, the flexors predominating, without reference as to where the wires were in contact. It is evident, therefore, that connecting the wires with needles, and regulating the force of the current as we wish to act, locally or generally, are essential to the full trial of electro-magnetism.

The following is Dr. Graves' neuralgic plaster:—

℞. Powder of opium, two scruples; camphor, half a drachm; Burgundy pitch, and plaster of lead, of each as much as may be necessary. Mix.

This is enough for the largest plaster. Steep the part with warm water before applying it. *Ibid., May* 20, 1843, *p.* 144.

Chlorosis.—The treatment of this affection, with scarcely an exception, consisted in the administration of the sesquioxyde of iron, in doses from half a drachm to a drachm, twice or three times a-day, with or without an equal quantity of the compound spirits of ammonia. The bowels were regulated by aloetic aperients, conjoined with the sulphat of iron, and occasionally with calomel. Gastric and head symptoms were relieved by an emetic, and local pains by warm plasters, opiate and irritant embrocations, mustard poultice, or a blister. The diet was dry and nutritious, and every thing done to invigorate the general health. One great practical difficulty is to secure regularity and perseverance in taking the medicine, and the bulk of the sesquioxyde forms the principal objection to its use.

It may not be unprofitable to the student if we glance briefly at some other preparations of steel which experience has sanctioned. The muriated tincture is a cheap, convenient, and efficient form, in doses from twenty to sixty drops

twice or thrice daily, given in water, infusion of ginger, or quassia. We have principally employed it during the past year.

Dr. McDivitt, in his report of the Kent and Canterbury Hospital, is very partial to the following draught:—

℞. Muriated tincture of iron, half a drachm; tincture of hyoscyamus, one drachm; tincture of aloes, half a drachm or a drachm; infusion of quassia, ten drachms. Mix. Three times a-day.

The acid solution of the oxysulphate of iron is a still more agreeable form, and has been extensively used by the practitioners of Derbyshire and the North of England, and admits of convenient combination with the sulphates of magnesia and soda.

Mr. Dyson gives the following formula:—

℞. Sulphate of iron, two or three drachms; nitric acid, three drachms; distilled water, one ounce and a half. Mix.

Rub the acid and salt together in a glass mortar for a quarter of an hour, then add the water gradually, and strain through paper; of this the dose is from five to twelve drops twice a-day.

The persesquinitrate of iron is an elegant form, and, like the muriate, and probably also the preceding, is well adapted for cases where the bowels are irritable, and other chronic mucous discharges are present. It is particularly recommended by Drs. Graves, Kopp, and Adam, under these circumstances.—(Vide Dr. Graves' "Clin. Med.," p. 672: also, "Amer. Jour. Med. Sci." May, 1839, p. 61.)

The lactate and citrate of iron have been recently much praised, but we have no personal experience of their value. The latter admits of convenient combination with alkalies.

The "aqua chalybeata" of Messrs. Bewly and Evans, Dublin, contains thirteen grains of the citrate to the pint, dissolved in water highly charged with carbonic acid and flavoured with orange-peel. It is highly recommended as a most grateful and refreshing chalybeate.

The acetate of iron of the Dublin Pharmacopœia, made by digesting for three days one part of the carbonate of iron in six of acetic acid, is a favourite preparation with many practitioners in Ireland. Dr. Perceval, who was much attached to it, used to prescribe it in asses' milk.

Dr. Lane, in his compendium of Materia Medica, insists on the value of giving alkalies with steel. The following powder, he says, will secure all the good effects of a chalybeate, and more certainly than in large quantities when uncombined:—

℞. Sesquioxyde of iron, five to ten grains; sesquicarbonate of ammonia, two to three grains; sesquicarbonate of soda, ten grains. Mix.

Dr. Ashwell has, in a "variety of cases," where the sulphate and other preparations of iron disagreed, given the subjoined powder, once or twice a-day, with success:—

℞. Blue sulphate of iron, in fine powder, half an ounce; calcined magnesia, two scruples; water, six ounces; tincture of quassia, two drachms. Divide into six draughts, one to be given night and morning.

The ferri carbonas saccharatum of the Edinburgh College ("Christison's Dispensatory," p. 425) is a powerful and excellent medicine. Dr. Clarke found it to surpass greatly the sesquioxyde in energy. The dose is also smaller; from five to thirty grains.

The "ferri iodidi syrupus" is deserving of adoption both as regards accuracy and elegance of prescription. A saccharine iodide, obtained by drying up the syrup, Dr. Christison considers should replace the present preparation.

We are indebted to the same source for an improved formula of the celebrated Æthiop's martis, under the name of "ferri oxydum nigrum," which has not yet been subjected to a practical trial.

It is also probable that the anhydrous sesquioxyde of iron, recommended as an antidote against arsenic, would prove a very excellent chalybeate.

There is much evidence in favour of the following pills, which are similar to

Bland's antineurotic pills, forty eight of which were considered sufficient for the cure of a chlorotic patient:—

℞. Powder of tragacanth, six grains; mucilage of accacia, seven drops. Mix, and add powdered sulphate of iron, a drachm and a half; rub well together, and then add a drachm and a half of subcarbonate of potash. To be made into twenty pills. One to be taken night and morning.

The "ferruginous pills" of M. Vallet, reported on by M. Soubeiran, in the "Bul. Med. Gen. de Therap." March, 1838, are essentially similar to the preceding, and less susceptible of oxydation.

Dr. Osborn has analysed the far-famed "Widow Walshe's pills," and they consist principally of a sulphate of the peroxyde of iron.

Dr. "Heberden's ink," as it was called, is composed of—

℞. Crown bark in coarse powder, eight ounces; filings of iron, four ounces; Columba root, sliced, three ounces; cloves, bruised, two ounces. Digest for three days in boiling water sufficient ultimately to yield three quarts of mixture. Filter this, and add compound tincture of cardamoms, one pound two ounces; tincture of orange-peel, two ounces. One to two ounces two or three times a-day.

It is rather a preparation of cinchona than of steel, and must be regarded as unchemical.

The steel sugar plums for children are not to be despised, as well as the steel bread before alluded to. Indeed, nothing is trifling which lightens the burthen of taking physic, and which facilitates the use of therapeutic agents. The practitioner who possesses the tact of efficient and pleasant combination, has many claims to public favour and support over his equally informed but less chemical neighbour. *Ibid., May 27, 1843, p. 165.*

4.—PHTHISIS INDUCED BY THE INHALATION OF GRITTY AND METALLIC PARTICLES—By G. Calvert Holland, M.D., Honorary Consulting Physician to the Sheffield General Infirmary.

[Dr. Holland has written a very able article on this subject which is deserving of the attention of the legislature itself. Thousands of individuals die of phthisis in the town of Sheffield from the inhalation of those gritty and metallic substances to which the grinders are subject; and if the legislature were to render it imperative on the masters and workmen that some such invention as the one here described should be used, how much suffering might be avoided. The treatment of these cases might be most effectual if employed at the commencement of the disease; but our remedial measures ought more especially to be applied in order to avoid the dust altogether. Twenty years ago, many of the influential gentlemen in Sheffield, among whom we may particularly name Sir A. J. Knight, M.D., now residing in Liverpool, interested themselves on the subject, and a magnetic guard or mouth-piece was invented by Mr. J. H. Abraham, consisting of a series of magnets about the mouth, which was effectual in attracting a large quantity of metallic particles which might have entered the mouth of the grinder, but was of no avail in attracting the non-metallic gritty particles. Moreover it was found that such was the reckless and careless character of the men, that they took but little trouble to avoid an evil, the nature and danger of which they seldom cared for till it was too late.]

The knowledge of these facts suggested a plan, which is not less simple than efficient, and which the trial of years has proved to be equal to the thorough correction of the evil. A wooden funnel, from ten to twelve inches square, is placed a little above the surface of the revolving stone, on the side farthest from the grinder, and this funnel terminates in a channel immediately under the surface of the floor; *or we may consider the channel simply as the continuation of the funnel*, in order to avoid any confusion in the explanation. The channel varies in length, according to the situation of the grinder, in reference to the point where it is most convenient to get quit of the dust. If we suppose that eight or ten grinders work in the same room, each has his own funnel and channel,

and they all terminate in one common channel, the capacity of which is perhaps twice or three times as great as each of the subordinate or branch channels. The point where they terminate is always close to an external wall. At this point, within the general channel, a fan is placed, somewhat in form like that used in winnowing corn, and to this is attached a strap which passes upwards and over a pulley, so that whatever puts the pulley in motion, causes the fan also to revolve. The pulley is placed in connexion with the machinery which turns the stone, so that whenever the grinder adjusts his machinery to work, he necessarily sets the pulley and the fan in motion. The fan, acting at this point, whatever may be the length of any of the subordinate channels, causes a strong current to flow from the mouth of each funnel, which carries along with it all the gritty and metallic particles evolved, leaving the room in which the operations are pursued, free from any perceptible dust. When the whole apparatus is perfect and in excellent condition, the atmosphere of the place is almost as healthy as that of a drawing-room.

In one manufactory,* where the apparatus is kept in beautiful order, the dust is thoroughly removed; and in this case it is conveyed by the general channel into a trough of water, on the outside of the building. The quantity which accumulates in it, in a few weeks is very great; and in raising it in a mass, it seems to have almost the specific gravity of metal. The expense in the construction of the apparatus would scarcely exceed the proportion of a sovereign to each grinder. The funnel will cost only a few shillings, and the channel, if the grinder work on the ground floor, may be formed by the excavation of the earth, placing bricks over it, or it may be formed entirely of bricks. The fan and the pulley may be purchased for a mere trifle. It is much better that the subordinate or branch channels should be *under* the floor; if *above*, which they sometimes are, and in that case made of wood, they are constantly liable to accidents. They are kicked by the foot, broken by the stones, or otherwise injured. Where they are so exposed, the object contemplated in the construction of them is, in a great measure, defeated. The dust escapes into the room, and renders the atmosphere exceedingly impure. Were the legislature to interfere, and make it imperative on the part of the proprietors of wheels, to construct such an apparatus, and compel them to keep it in a perfect condition, an immense amount of disease, suffering, and wretchedness would be prevented; and the future inquirer into the condition of grinders would not have to record the numerous premature deaths, which we shall subsequently bring under consideration. Government has interfered, and very properly, in compelling the mill-owners in the cotton districts so to *box off* the machinery, that accidents which were once frequent, are now of rare occurrence. The evils arising from the inhalation of gritty and metallic particles, are twenty times greater than could possibly be ascribed to unprotected machinery. The lives of thousands are shortened and embittered by the baneful occupation which we have described. And the injurious circumstances in the one case are as easily, and almost as cheaply, corrected as in the other. The efficacy of the plan is unquestionable. Where the apparatus has been in operation for years, we have not found a single individual labouring under any pulmonary affection; and the branch† in which we have observed this immunity, would otherwise have been exceedingly destructive to life. A few of the more intelligent grinders have put up, at their own expense, an imperfect apparatus of this kind, and they have described to us in warm terms the benefit derived. In some instances it has been done when the lungs had become affected with disease; and we know, from personal inquiry, that this has not only been arrested, but substantial relief has been afforded to the artizan. The plan, however, will never be generally adopted, or in any degree steadily maintained, unless enforced by special legislative enactments.—*Lond. and Edin. Jour. Med. Science, Oct.*, 1843, *p.* 886.

* That of Messrs. Yeomans and Shaw, spindle manufacturers of Sheffield. We have authority to state, that these gentlemen will be happy to show and explain to any visitor the system of ventilation which is efficiently carried out in the grinding of spindles.

† The grinding of spindles.

BEBEERU BARK OF BRITISH GUIANA.—By DOUGLAS MACLAGAN, M.D., F.R.S.E., Lecturer on Materia Med., &c.

Dr. Maclagan read a paper on the chemical history of the bebeeru tree before the Royal Society of Edinburgh, of which an extract will be found in the Lond. and Ed. Month. Journ. of Med. Science for July, 1843, p. 651. In the number of this Journal for August we find an interesting paper by the same gentleman, which gives us his experience of its powers as a medicine and as a substitute for sulphate of quinine. The bark and seeds of this tree yield two alkaline bodies, to which Dr. Maclagan has applied the terms bebeerine and sisseerine, from the Indian and Dutch names of the tree, and the sulphate of which has been proposed as a substitute for sulphate of quinine. Dr. Maclagan considers the action of bebeerine to be in a marked degree antiperiodic, and offers a number of cases to prove the truth of this assertion. Case 1:—Mr. C., aged 27, had been subject to ague in the tertian form in Canada. He was again attacked in Edinburgh, and, as quinine disagreed with him, the solution of sulphate of bebeerine as used by Dr. Rodie* was tried. The first dose, 25 drops, made him vomit, he having neglected, as advised, to take a dose of laxative medicine previously. He continued the dose twice a-day for five days, when the disease disappeared. Case 2 was that of a tertian ague, in which sulphate of bebeerine prepared from the seeds† was given. Of this he took in solution 40 grains, in doses of two grains thrice daily, and the disease yielded without his ever being confined to the house.

The value of bebeerine as a remedy, however, can be better judged of by its effects in the more serious cases of intermittent, as they occur in our colonies, and so far as it has been tried, there seems every reason to expect that it will be found to be an efficacious febrifuge.

The following is the statement of Dr. Rodie himself, as quoted by Sir Andrew Halliday in 1835:—The trials that have hitherto been made of the sulphate of bebeerine, have been very limited; but they have hitherto been very successful. I tried it in a great many cases of intermittent and remittent fever, and found it equally efficacious with sulphate of quinine, nay, it frequently cured the fever when quinine had failed. I have communications from many eminent practitioners in the West Indies, and they all assure me that they have found the sulphate of bebeerine as valuable a remedy, if not more so, than the sulphate of quinine, and that it had never produced any irritation of the stomach, nor that alarming symptom of deafness and determination to the head, which so frequently follows the exhibition of the quinine in large doses.]

Edin. Med. and Surg. Journ., vol. xliv., p. 547.

[Dr. Watt, of West Coast Demarara, communicates some interesting cases in which this medicine proved equally successful. He found from a scruple to half a drachm or two drachms of the sulphate sufficient for a common intermittent. A portion of similar sulphate was sent to another medical friend in North America, and was equally successful in a case of tertian ague. On the first day of intermission the patient had twelve grains given to him; during the next intermission he took nine grains, and had no return. Dr. Blair, of the Seaman's Hospital, tried it instead of quinine, in yellow fever, and found it to answer as well.]

Periodic Headache.—I have not yet been enabled to obtain sufficient data to justify me in confidently stating the results of the treatment of periodic headache by bebeerine. I believe, however, that a proper selection of cases of this complaint will form one of the best means by which, in this country, we can test the antiperiodic powers of this drug, if we may judge at least from the facility with which we can observe the action of quinine in allaying this disorder. A

* This solution, as prepared by Dr. Rodie in his earlier experiments, is a thick, dark-coloured solution of the sulphate containing some impurity. I do not know its strength, but in his printed letter, Dr. Rodie indicated the dose as being from twenty to thirty drops. *Vide* a notice of Dr. Rodie's discovery by Sir Andrew Halliday, Edin. Med. and Surg. Jour., vol 44.

† Here and throughout this paper, when sulphate of bebeerine is mentioned, it is understood to be a sulphate containing both the alkalies of the bebeeru tree.

large proportion of cases of periodic headache, however, are much more beneficially treated by a free use of cathartics, especially by croton oil in moderate doses, and it is chiefly in cases where the disease is connected with general debility, or where the cathartic plan has failed, that the use of bebeerine can be fairly tried. During the course of last year I put eight cases of periodic headache and faceache under a cathartic plan of treatment, with a view to afterwards testing the powers of bebeerine, but in none of them did the disease resist so long as to require the tonic remedy. In one or two cases, however, where, from peculiar circumstances, the cathartic plan was inadmissible, I have tried it, and have been well satisfied with the results obtained.

As regards the features which are characteristic of bebeerine as a therapeutic agent generally, I think that the above cases entitle us to consider that it is a marked antiperiodic and tonic, and consequently that there good reason to believe that it may be applied to the same purposes for which the more expensive sulphate of quinine is employed. Contrasted with quinine, I should say from what I have observed in my own patients, that it is not so liable to excite the circulation. Dr. Watt, in one of his letters, writes to me, "I took ten grains of the sulphate on going to bed on 27th November, by way of trial. The taste was not more bitter than quinine, but continued much longer in the throat. It has a very astringent taste, causing the point of the tongue to have a leathery feel. I felt some fullness about the ears during the night, but no ringing. The same quantity of quinine would have made my ears ring for a whole night, and made me feel nervous next morning. After the bebeerine I had no nervous feeling whatever. *Lon. and Edin. Jour. of Med. Sci., Aug.* 1843, *p.* 685—694.

6.—ON PHTHISIS.—By Dr. Graves, Dublin.

[In the following passage, Dr. Graves explains his views on the pathology of tubercle:]—

I look on tubercular development and consumption as the consequences of that particular state of constitution, which occasions what is falsely termed tubercular inflammation, a state of constitution in which we have three distinct processes, attended by corresponding morbid changes, each different in itself, but depending on one common cause. Every form of consumption, which has hitherto come under our notice, is referable to one common origin, and this is that debilitated state of constitution which has been termed the scrofulous habit. One of the first tendencies of this habit is to the formation of tissues of an inferior degree of animalization, among which I class tubercles, whether occurring in the lungs, brain, or liver, whether they exist in a minute or granular form, or in large, soft, and yellow masses, or in the state of tubercular infiltration. I look on them as one of the first of those morbid changes dependent on a peculiar constitution of body, and most commonly found to accompany it. The weaker the constitution is, the greater tendency is there to generate tissues of a lower degree of vitality, and, on this principle, I think we can explain the occurrence of entozoa and hydatids. There are some cases in which you will never be able to prevent the generation of intestinal worms, until you direct your attention to the source of the evil, which lies in the weakness of the constitution, for, in such a state of the system, all animals are liable to the formation of parasitic productions and tissues imperfectly animalized. I look on tubercles in this light, and not as the consequence of inflammation, nor do I consider that it has been proved that tubercular development is the cause of phthisis. (pp. 279.)

[It occasionally happens, as Dr. Graves states in another place, that tubercles become deposited to an extraordinary extent in the space of two or three weeks, and the patient may even die of suffocation from this cause, without the usual symptoms of phthisis. "The most important, then, and as Dr. Graves observes, one of the first morbid changes arising from the scrofulous habit, is the formation of tubercular matter. The presence of tubercles in any of its forms, however, is not so much the disease we are called upon to combat, as one of its effects."]

Dr. Graves contends, that in all cases of phthisis, "the pectoral symptoms, of whatever nature they may be, are caused by scrofulous inflammation," by

which we presume that he means, inflammation as it occurs in individuals of a scrofulous diathesis, and he proceeds to compare the progress of ulcerations of the lungs with that of external scrofulous abscesses. There is, he observes, the same slowness, the same insidious latency, the same gradual solidification and gradual softening; the puriform fluid secreted is similar in character, while there is the analagous occurrence of burrowing ulcers and fistulous openings with close approximation in the form of thin parietes, and difficulty of healing in each; and at the same time constitutional symptoms identical in nature; hectic flushings and sweats, diarrhœa, emaciation, &c., equally accompany phthisical suppuration of the lungs and scrofulous inflammation of the joints or other external parts. With these views, therefore, we are not surprised to find Dr. Graves entertaining the opinion that tubercle, though a most frequent accompaniment of phthisis, is neither the essential cause of that disease nor a necessary product. Scrofulous inflammation is with him the *fons et origo*, the real and efficient cause of phthisis, whether tubercle be generated in the course of the diseased action or no, and thus we have scrofulous pneumonia and scrofulous bronchitis equally productive of phthisis without the presence of one single tubercle or spot of deposition of tubercular matter, either in the pulmonary tissue or on the bronchial membrane. In the latter case, scrofulous bronchitis, it is urged by Dr. Graves, that the accompanying fever presents all the material phenomena of phthisis; there is the same emaciation, frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted, although not mixed as in cases of true phthisis with broken-down tubercles.

We may, therefore, have tubercles without either the pneumonia or the bronchitis; and we may have scrofulous pneumonia often ending in slow burrowing suppuration, and proving fatal without any tubercles being formed. In like manner, a person may die of scrofulous bronchitis without the occurrence of either tubercles or pneumonia. Of these three effects of scrofula, it may be remarked, that, owing to their cause and origin being the same, they are most frequently found in combination. The same diathesis which produces one may give rise to the others; hence the frequency of their association; hence it is that they generally occur together.

[With the exception of rapid mercurialization in some forms of phthisis, Dr. Graves does not seem to advance anything particularly novel in the treatment of this fatal disease. Strengthening and supporting of the general system, and the improvement of its tone, form the basis of his prophylactic measures. Early rising, cold washing, free exposure to the air, exercise, with nutritious not stimulating diet, form the main point of the regimen which he recommends. The treatment of some forms of phthisis by rapidly affecting the system with mercury originated in the success attending Dr. O'Beirne's employment of the same means in acute scrofulous inflammation of the joints.]

The form of phthisis in which this practice is stated to have proved successful in effecting a cure, is where the lungs became affected before any general contamination of the system takes place. "It is in such cases, and such only," says Dr. Graves, "that mercury ought to be tried, and it will avail nothing except when the commencement of the scrofulous inflammation of the lung has arisen suddenly, and in consequence of the operation of some obvious cause, as catching cold or the occurrence of hæmoptysis." Some instances are related of the good effects of this plan of treatment, and the observations of Dr. Munk on the same subject quoted at length from the Medical Gazette. The practice is not altogether new, but has been before recommended and followed by Dr. Rush and some other American physicians. They, however, failed to indicate the class of cases in which it was calculated to prove of service, and the indiscriminate employment of the method, and its consequent want of success in a vast number of instances may probably have been the cause of its having fallen into disuse. In the cases in which the mercurial treatment proves applicable, the tubercular affection, however, would seem to be of only secondary importance, so *that this method* appears to be chiefly serviceable in scrofulous pulmonary in-

flammation, rather than tubercular phthisis, affording an additional reason derived from curative indications for retaining the term phthisis in its more definite sense.
Brit. and For. Med. Rev., July 1843, *p.* 249.

7.—FURTHER REMARKS ON MATICO.—By Dr. Jeffreys, Liverpool.

[In Retrospect, Part 6, Art. 79, we referred to this vegetable as a powerful styptic, and published some remarks on the subject by Dr. Munro, of Dundee. It was introduced to the notice of the profession by Dr. Jeffreys, of Liverpool, who has published an interesting paper on its virtues, which are said to be valuable in cases of gonorrhœa, leucorrhœa, menorrhagia, hæmorrhoids, epistaxis, and catarrhus vesicæ, &c. When Dr. Munro published his paper the matico leaf had not been given internally, but since that time several practitioners have tried it in the form of infusion with decided advantage. Dr. Jeffreys thinks that the active virtues of the plant are principally due to the essential oil. In a case related by this gentleman, the patient had been subject for two months to excessive discharges of pure blood and coagula from the vagina, amounting to nearly a quart in a few days, occurring every ten days or a fortnight, and followed by a serous or muco-purulent discharge. The usual treatment had failed in this case, but on taking a wine glassful of the infusion of matico four times daily, she recovered from all severe symptoms in ten days. In another case, one of discharge of blood from the bowels with scarcely any feculent matter in the stools, he prescribed a decoction of matico in the proportion of half an ounce to the pint, and directed three table spoonfuls to be taken every four or six hours. Three doses were sufficient for the cure.

If employed externally as a styptic, it is better to apply the *under* side of the leaf. Internally the decoction or infusion may be safely given, half an ounce to the pint, and the dose three table spoonfuls, increasing the strength to one ounce to the pint gradually; suspending its use for a day, and substituting a gentle purgative; but if it produce nausea, it should be omitted for a few days.]—*Trans. of the Prov. Med. Assoc., vol.* II. *p.* 347—366.

[Dr. Hunter Lane, of Lancaster, has also written an interesting paper on the same subject, in the Medical Gazette, without being aware, he says, of any other person having in this country ascertained the internal medicinal action of the plant. His infusion is made much in the same way as the one mentioned above by Dr. Jeffreys, viz: one ounce of the leaves to a pint of boiling water; to be macerated two hours; and his tincture also is much the same as the one made in Liverpool, viz: two ounces and a half of the leaves to a pint of proof spirit, to be macerated for fourteen days.

Dr. Lane gives from half an ounce to two ounces of the infusion as a dose; as an injection it may be used *ad libitum;* of the tincture, one to three drachms as a dose. In chronic diarrhœa, Dr. Lane did not find the medicine of very decided advantage, but as an injection, in *leucorrhœa*, he thinks it has all the advantages, with none of the disadvantages, of the injection of nitrate of silver. It must always be remembered that it is slightly stimulating as well as stringent, and therefore it would not be quite proper to use it in the early stages of this or any other affection where any inflammatory disposition existed. Cases are related in which it was also successful in menorrhagia; and in that description of varicose and ulcerated condition of the rectum for which Dr. Houston has proposed the topical application of nitric acid of specific gravity 1500.*]—*Med. Gaz., Oct.* 6, 1843, *p.* 9.

8.—VAPOUR AND HOT-AIR BATH.—By Dr. Martin H. Lynch.

[It is not necessary to enter into any argument to prove the value of the hot-air and vapour bath in the treatment of many forms of disease. We publish this article chiefly to point out a very economical and efficient form of apparatus described by Dr. Lynch; but before doing so we will give a few remarks of Dr. Forbes on the use of this kind of bath, taken from the Cyclopædia of Practical Medicine.]

* See Retrospect, Part 7, article 62.

Most of the cases (says Dr. Forbes) formerly noticed under the head of the warm bath are equally benefitted by the vapour bath, and some seem more benefitted by the latter. We shall only here refer to one of these—namely, the well known condition of the system which precedes many acute diseases, and which is familiarly known by the name of a *chill*, because it is usually produced by the application of cold. This state often exists for several days before the reaction of disease and fever supervene. It is the usual precursor of acute catarrh or bronchitis, asthma, pneumonia, rheumatism, diarrhœa, or dysentery, &c.—in a word, of the numerous class of inflammatory diseases which derive their origin from cold. In most of these cases the vapour bath is a very effective remedy if administered at the proper time and in the proper manner. The most proper time is the earliest possible after the application of the morbific cause; but the remedy may still be applied with benefit, although with much less effect, at any time previously to the actual establishment of the local inflammation. After this has taken place, or is about to take place, the application of the bath will, in most cases, be more injurious than beneficial. In cases of the kind now under consideration, the vapour bath, especially if the vapour is breathed, appears to possess decided advantages over the common water bath. But although fully convinced of the admirable effects likely to result from this mode of treatment, we cannot consider it as a practice to be had recourse to at the discretion of patients without medical sanction, as, like all powerful remedies, it is capable of doing harm as well as good. Under proper regulation we have little doubt that it will in many cases effectually check the morbid process, which, if left to nature, must end in formal disease. The temperature in cases of this kind should not be high; the object being to drive to the surface without exciting the circulation; the application of the vapour should be commenced at the lowest degree which is felt to be agreeable, as about 95°, and the temperature should be gradually and slowly raised, and should rarely exceed 106°. The more copious the perspiration that can be excited at a moderate degree of heat, the more likely is the result to prove beneficial.

The construction of Dr. Lynch's apparatus is very simple, whilst it combines the hot air with the vapor bath: A dome-roofed boiler of tin, somewhat more than two inches in depth at the circumference, rests upon a tin stand with iron legs. The stand is four inches high. The boiler is nine inches in diameter, thus giving a larger surface for the generation of steam than any other equally portable apparatus. The dome-cover of the boiler is fixed, and has two openings—one in the centre, to which a tube of two inches diameter is permanently adapted, the other, close to the circumference, somewhat more than an inch in diameter. This latter aperture serves as a feeder for the administration of water, and has a screw-cover. The two-inch tube ascends more than six inches and a half before it is made to turn at right angles, so as to run horizontal to the floor, and joints are added, so that the conveying tube may be made long or short at pleasure. Should the two inch tube be made to turn before it has risen six inches and a half, the apparatus will not work so well. The water should be put in boiling, and should only occupy, *at the utmost*, one third of the boiler. As soon as the tube becomes heated, air rushes in at the feeding hole, and rises with the steam. Should the temperature rise too high, it may be lowered by the attendant withdrawing the lamp for a moment or two, or by putting the cover on the feeding hole, which cuts off the supply of hot air. The spirit-lamp should not be more than half filled with naphtha, or spirits of wine. The lower surface of the horizontal tube rests upon a plane *thirteen inches elevated* above the floor; a stool, hence, is required of this height, large enough for a chair to rest upon it, and also a small foot bath. I consider the immersing of the feet to the ankles in hot water adds much to the comfort and efficiency of the bath, as the hot air and steam *ascend*, and it is some time before the feet become enveloped in them. Laths should be nailed around this stool to prevent the chair from slipping off. An earthenware spirit-lamp, like that sold by Griffin, of Glasgow, is the best; it need not have more than one wick orifice, and this should be three-quarters of an inch in diameter. I use

the cylindrical wicks burnt in the library lamp, first rolling them up, so that the wick orifice may be completely filled. A metal lamp does not answer; the heat generated by the combustion of so large a wick is very great, and, being readily conveyed by the metal, makes the naphtha, or spirit, boil. In this way it might give rise to troublesome accidents; I have found these to occur with a well made copper spirit-lamp, but never with the earthenware one. A copper lamp, with four or five wick holes, is attached to some forms of apparatus, but two to three of the wicks cannot be burnt separately from the rest, unless screw-caps be made for each wick hole. These screws would bring the price of the *lamp alone* up to eight or ten shillings, whilst, if it become necessary to remove one of the screw-caps (in order to increase the heat), there would be a difficulty in effecting its removal, in consequeuce of its being too hot to admit of being touched. The person taking the bath sits upon a chair placed upon the stool or table thirteen inches high with his feet immersed to the ankles in hot water. A wooden hoop (of sufficient diameter to include the back of the chair and his body, and to extend forwards as far as his knees do in the sitting posture) is slung from his shoulders by two tapes, having cross belts extending across the chest and back, immediately before and behind the neck, which is included in the rectangular space inclosed by the cross-straps and the suspending tapes. Behind, the hoop should be fastened to the back of the chair, so as to make it lie as much forwards as possible in front. The cloak should be ample and long, sufficient to cover the patient, chair, and hood, and to lie on the floor. There should be a slit behind, about thirteen inches above the lower edge, with a short sleeve (a foot long) sewed to it. Through this the steam tube is admitted. In front there should be another short sleeve, capable of being easily reached by the hand of the person taking the bath; this sleeve is to be used for the purpose of passing out the thermometer aud ascertaining the temperature. Strings should be attached to this sleeve, which strings may be tied or untied by the attendant. The best material for making the cloak is the woolen stuff used for laundresses' ironing blankets, or Irish frieze, as recommended by Professor Macartney. The best description of the latter stuff can be had at three shillings per yard, and the cloth is about a yard wide; it is very thick, and impervious to steam. With a little attention, however, the bath may be effectively administered with the aid of common blankets; this I am able to assert from experience. Professor Macartney's apparatus is well adapted for the purpose of applying steam at a *low* temperature in inflammations of the extremities or joints, but is not calculated for giving a general vapour bath for exciting general diaphoresis. Professor Macartney directs that, for the purpose of giving the general bath, the boiler and lamp should be included within the blankets or cloak. This alone is enough to condemn his apparatus, for the spirit-lamp and boiler should (for obvious reasons) always stand outside, and open to the inspection of the attendant.

The only apparatus which comes near mine in efficiency and portability is that of Duval, which, I believe, is in use at Guy's Hospital. This apparatus, entirely made of copper, is extremely neat in execution and ingenious in its plan; but the surface of water exposed for the generation of steam, is much less extensive than in mine, the hot-air (with the gases generated by combustion) rushes in much greater quantity and at a higher temperature, rendering it impossible to remain as long in the bath as when my boiler is used, and, finally, the price of the apparatus is at least six times greater than that of mine. Moreover, the plan and workmanship are so peculiar that (even if it were not a patent article) it would be difficult to have repairs made in the country. Duval's apparatus certainly has the advantage of being applicable for the administration of baths of steam and sulphurous acid gas; but these are seldom required, and when the apparatus is completely fitted up for baths of this kind, the price amounts to about twelve guineas. My apparatus is so simple that it may be made in any part of the country from my description; but any gentleman wishing to try it, and desirous to avoid the annoyance of tradesmen's blunders, may procure it at Morris & Osborn's, 32 Parliament street, at the very moderate price of twelve shillings and sixpence, for the boiler tubes, two earthenware

spirit-lamps, and a strong wooden box, not much larger than a hat-box, to hold the entire. The cloak can be made by any tailor or sempstress, and the stool or table may be had for four or five shillings. Fourpence worth of naphtha is sufficient for each bath.—*Prov. Med. Jour., July* 1, 1843, *p.* 273.

Spirits of wine will be used to feed the lamp, when the person taking the bath can afford to disregard an increase in the expense to the amount on each occasion of three pence at the utmost; but the working class, and many of the middle classes, being compelled to observe the strictest economy, must employ naphtha for fuel; hence, a few directions for avoiding the disagreeable smell of that substance must be useful. The lamp should not be charged with naphtha until the boiler is filled with hot water, and the stool and chair placed in their proper position, and, when it is charged, it should be lighted *immediately*, and the bottle of naphtha *instantly* corked. The lamp, when lighted, should, of course, be placed beneath the boiler. Were the lamp permitted to remain unlighted, the naphtha would escape by evaporation. The lighting of the lamp prevents the evaporation, by *consuming* the naphtha in combustion. The best wick is that made by rolling up the cylindrical wicks of the oxydator library-lamp. I have tried one made of the common thread-wick, but when it is made so as to *fit* the aperture of the lamp closely, the flame is unnecessarily strong, and when it is made to fit loosely, it falls into the cavity of the lamp. The unnecessary degree of flame does not give rise to any accidents; the boiler, stand, and lamp, all sustain it without injury, but there is a considerable waste of fuel. The excess of flame would cause the water to boil too violently in any other form of apparatus, but *not in mine;* the current of cool air passing from the feeding hole over the surface of the water prevents this. When the hot water is put into the boiler, and the lamp placed beneath, the cover should be screwed on the feeding hole, and not removed until the apparatus is ready for use, which will be in less than five minutes, but the time varies a little according to the temperature of the water when it is poured into the boiler. When the patient is seated, and the cloak adjusted, the cover is removed from the feeding hole, when the vapour, combined with hot air, issues forth freely. The object of this precaution is to prevent the escape of steam into the room—to bring the apparatus to full work without any diffusion of vapour through the apartment. The patient will know when to undress by feeling the three-feet conducting tube (along which the heat steadily progresses during the five minutes), and should take his seat immediately after the issue of steam in very small quantity from the conducting tube. When the lamp is extinguished, the wick should be laid on a plate, and the plate should be placed on one of the shelves to be found on each side of most grates, so that the naphtha in the wick may be carried up the chimney-flue. The naphtha left in the lamp (if any) should be without delay returned into the bottle. The precautions regarding naphtha will prevent any escape that would prove injurious or disagreeable. Since the publication of my former communication, I have contrived an improvement in the stool and hoop, so that they may be conveniently carried in travelling. The stool should be twenty-four inches wide, by forty-four inches long, and for travelling, should be equally divided into two parts, in its longest direction. Each part is a foot wide, and forty-four inches long. It is made of thwart-pieces of deal board, a foot wide, laid across two strong pieces of oak or beech three inches wide, forty-four inches long, and two inches thick. Four legs of oak or beech are fitted into each division of the stool, sockets being cut in the oak or beech for them. The two divisions of the stool are joined together like dining-tables. In order to pack the stool for travelling, draw out the legs from the sockets (nearly two inches deep), and place the inferior surfaces of the two divisions of the stool in apposition with each other. The pieces of oak lie together, surface upon surface, but between those portions of the deal which are not nailed upon the beech or oak a space or box is included. This box is six inches wide, forty inches long, and four inches deep (from deal to deal). In it can be packed the legs and the iron rods, which I shall presently describe. Four light iron rods are made so as to screw together, and form an oblong figure twenty-eight inches wide, and thirty-six inches long. They do not screw together at the angles,

which are rounded off, to prevent holes being worn in the cloak. To the side rods (thirty-six inches long) rings are fitted, about four or five inches from the posterior end, in order to tie them by tapes to the side of the chair, and thus maintain the posterior rod at the distance of four inches from the back of the chair, whilst the anterior will lie as far forward as the knees, but above them. The rods have flannel covers. I omitted to observe above, that the damping of the wick, before lighting the lamp, should be effected by pouring a little naphtha or spirit into a small cup, and placing it on the grate-shelf, or pouring the surplus back into the bottle after the wick has been damped.—*Ib., July* 22, 1843, *p.* 337.

[In another communication to the same Journal, Dr. Lynch publishes some improvements which he thinks may be useful.]

Having procured bath-gowns made of various kinds of stuff, and having tested each, I am able to say that no material is so suitable as a particular kind of sail-cloth; no bath-cloak can be had cheaper, but leaving cheapness out of the question, the sail-cloth cloak is superior to all others for retaining the vapour and hot air, and has the advantage of drying very rapidly. After a bath of one hour and ten minutes in duration, I have repeatedly found it slightly moist on the inner side only, whilst the outer surface has been quite free from moisture; in this state it has been hung up in a lobby, and has been found perfectly dry in less than three hours; in the open air or before a fire, a much shorter time would be sufficient for drying it. The sail-cloth gown also looks well, washes well, and is more durable than any other. Having had several cloaks, sets of boilers, tubes, &c., made for my own use, and having had the whole apparatus in use for a long time, I can give some hints that will save expense to purchasers. Less stuff by three yards is used in making the cloaks now than at first, as several were made before the most economical mode of cutting the cloth was discovered; besides, arrangements have been entered into for procuring a great number, to be made in one establishment, for less than half the price demanded for making one; hence, I am convinced at least ten shillings will be saved by procuring the cloak from Mr. Morris. A saving will also be effected by buying from him the portable stool with shifting legs; and, indeed, I strongly advise that nothing should be made in the country but the common six-shilling stool with fixed legs. In my second paper, twenty-four inches by thirty-six should have been given as the measurement of the stool, instead of twenty-four by forty-four. I now make the cloak rest on the stool, as in this way it answers perfectly, and much stuff is saved. The wick should be precisely the same as that sent in the lamp by Mr. Morris. For the general bath it should project an inch or ½ of an inch beyond the orifice, and before it is lighted the threads of the projecting portion should be unravelled, and spread wide, so as to have a broad flame. There is no danger to be apprehended from the strength of the flame. The patient should not take his seat until the water boils most freely, which is known by the sound of the boiler and tremor of the tube.

Prov. Med. Journal, Aug. 19, 1843, *p.* 426.

9.—TUBERCLES AND PHTHISIS.—By James Black, M. D.

We take the following from Dr. Black's very able retrospective address on medicine published in the last volume of the Transactions of the Provincial Medical Association; and we cannot lose this opportunity of publicly thanking that gentleman for the ability and learning which he has therein proved himself to possess.]

Considerable difference of opinion still exists among pathologists, as to the generation and development of tubercles, as found in the lungs—whether they are the physiological result of a low inflammation, or are a peculiar deposit from the blood, formed by the aggregation of certain morbid or semi-organized molecules, or whether they are an abnormal growth, of the nature of hydatids. Their primary localization is also unsettled. Gerber considers these deposits may arise from any arrestment in the capillaries of the lungs, by which an exudation of the *plasma* or *liquor sanguinis* takes place through the parietes of the vessels into the parenchymal tissue, and so the tubercles are formed—thus making them a mere exudation of albumen, if not of fibrinous globules. Lugol

considers their formation to be an *epigenisis*—organized matter capable of nutrition, similar to parasitical growths in other parts, such as in the case of hydatids, intestinal worms, and *pediculi*. All these parasitical complaints are held to be much more frequent in scrofulous habits than in others; and he denies that tubercles begin to soften first in the centre, but equally throughout—being previously quite homogeneous in their texture. As a proof that tubercles are endowed with vascularity, Lugol has met with two instances of hæmorrhage in their interior; and, according to his latest opinions, tubercles are no more to be looked upon as devoid of blood-vessels, than the pleura or the white matter of the brain, when congestion or inflammation does not exist; but where vessels are easily detected by the naked eye in all of them, when these phenomena take place.* Dr. Kingston also argues for the vascularity of tubercles, and cites, as an analagous proof, the *supposed* non-vascularity of articular cartilage, which, he says, has now been proved to be supplied with blood-vessels.† In this, he may be said to overlook the ready development of vessels in textures normally corpuscular, or only endowed with cellular permeability. In opposition to these views, many pathologists, especially in this country, consider tubercles to be composed of inorganized matter deposited from the blood on the mucous surface of the air-cells, and, not unfrequently, in the parenchyma of the lungs. It also follows, that as no change can originate in the inorganized matter itself, so the solidified tubercles can only be affected through the agency of the parts around, or in contact with it. These latter opinions are founded, principally, on the anatomical researches of Dr. Carswell, and Dr. Watson adopts them to their full extent, while he agrees with Lugol, that the formation of tubercles is closely linked with the scrofulous diathesis.‡ While the miliary tubercles are considered by Andral, as the pulmonary vesicles rendered hard by chronic *inflammation;* others, following Dr. Carswell, continue to attribute them to a secretion from the blood, not of tubercular matter alone, but also of a portion of its albuminous fluid, forming a transparent matrix or cyst for the more solid deposit. Dr. Watts seems to hold the modified view of tubercles being of an intermediate nature between pus and coagulable lymph, first solidifying, then softening.§ That tubercles are the pure result of inflammation is now rarely entertained; but the more modern physiology is, that they are the result of a perversion of the ordinary process of nutrition; and that the existence of the scrofulous diathesis occasions that to be deposited as inorganizable albumen, which, in a sound state, would have taken on the form of organized fibrine.‖ Dr. Campbell, moreover, in his late *Observations*, infers, with some French physiologists, that the pulmonary capillaries are of smaller dimensions in individuals of strumous habits, than in those of a healthy constitution. This is the predisposition which arrests the imperfectly organized globules in the lungs—a deposition, therefore, takes place in the pulmonary capillaries, followed in process of time by a reaction, explosive of the disease. M. Louis, in his admirable article on phthisis, in the *Dictonaire de Medicine*, lately published, takes a review of all the theories existing on this subject, and considers objectionable that of tubercles being the result of inflammation, or of being nothing but concreted pus, having its seat in the venous capillaries, according to Cruveilhier and Lallemand. He considers the semi-transparent granulation or miliary tubercle as the first degree, or the nucleus which is developed into the crude tubercle; and, on the whole, he seems inclined to attribute some vascular organization to these bodies. The article is a most valuable one, and deserves translation into our language.

Notwithstanding the continued hopeless fatality of tubercular phthisis in general, after all the progress that has lately been made into its *genesis* and the intimate analysis of its morbid products, still we may say, we are advancing in the more correct appreciation of those cases, in which a lamentable issue is to take place, through the means of our improved stethoscopic diagnosis. The more perfect knowledge of the predisponent causes and the incipient condi-

* Lugol's Lectures, by M. M. Bennett and Guiet; Medical Gazette, September, 24 1841.
† Medical Gazette, Nov. 26, 1841. ‡ Lectures in Medical Gazette, vol. xxix. § Dublin Journal of Medical Science, March, 1842. ‖ Carpenter's Physiology, p. 497.

tion of the disease is, by degrees, leading us to a more scientific application of preventive measures, and especially, by correcting early aberrations in the nutritive organs. The use also of respirators and of artificial local atmospheres, as recommended by Dr. Jeffreys,* if a timely removal to appropriate climate cannot be accomplished, are also thought more worthy of attention. It would also appear from Liebig's late investigations, that a diminished supply of oxygen from a warm and moist atmosphere, would tend to diminish the amount and severity of pulmonic disease.† Mr. Gilbert, in his lately published work,‡ while he considers, like several of his predecessors, the *fons et origo* of the disease to be owing to inorganizable matter being conveyed into the blood from a defective or perverted nutritive process, strongly insists on a judicious regime and diet in youth, especially where there is a phthisical diathesis in the parents. To detect the earliest invasion of the disease, which is the most difficult point in our stethoscopic diagnosis, he recommends M. Fournet's very discriminative attention to the respiratory murmurs, and especially to those of expiration, which are increased both in duration and intensity, while the inspiratory murmur is increased only in intensity, but diminished in duration.

The occasional discovery of cicatrized cavities in the lungs, such as are related by M. Payan, of the Hotel Dieu of Aix, and by Drs. Stokes and Graves, has moreover stimulated some to continue the use of empirical remedies, even in the advanced stages. Among these, we have the *proto-iodide of iron* and the *ol. asphalti*; while, in the early periods, we have the pure alkalies highly recommended by Dr. Campbell (Op. citato.), and repeated emetics of *ipecacuanha* by Dr. Durant (Med. Gaz., Dec. 31, 1841.), after the old plan of Dr. Morton. We must not here forget the very elegant arsenical cigarettoes, invented by M. Trousseau, which, in the days of *fumomania*, might be easily and effectually adopted, instead of glass inhalers or other stationary apparatus, which are seldom perfectly managed by delicate and nervous patients.

Some of our French brethren are not very sanguine, that the light of modern science will add much to the cure of phthisis; and M. Paris, Haute Saone,‖ even says, that since the discovery of auscultation and percussion, the disease is in general more rapidly fatal. He attributes this to an early decided prognosis, whereby the patient is at once put upon a medicated diet, by which the blood becomes sooner impoverished; for he considers the very essence of the disease poverty of nutricious principles in the blood—that its character is chronic, and that its more irregular and rapid progress is owing to the employment of an antiphlogistic treatment, to a dietetic regimen, or to a milk and mucilaginous diet, producing an atony in the digestive organs, and also to the depression of the active moral sentiments. He also cites some cases where a generous diet and dissipation of time, with travelling, produced a cure or lengthened course of the complaint. I may here remark, that some late statistical inquiries have tended to stagger the popular, if not medical opinion, as to the greater prevalence of phthisis in some climates and among some classes of people, who were thought very obnoxious to the disease. A writer of a very elaborate article in the *London Medical Gazette*, has endeavored to show that, from statistical returns, "it is neither inequability of temperature, nor the frequency and magnitude of the variations in temperature to which a country may be subject, that have any effect on the production of phthisis;"§ and Mr. Noble, before the statistical section of the last meeting of the British Association, has deduced some observations, in which some few others concurred, that the deaths from consumption, in the factory district of Manchester, were actually fewer in proportion to the deaths from all causes, than in the agricultural county of Essex, being as four to twenty-one in Essex, and three to nineteen in Manchester; and finally he showed, that a smaller rate of mortality from this disease, com-

* Medical Gazette, vol. xxx. † Liebig's Organic Chemistry of Physiology and Pathology, p. 23.

‡ Pulmonary Consumption; its Prevention and Cure, established on new views of the Pathology of the Disease. London. 1842.

‖ Bulletin General de Therapeutique, Sept., 1841. § Medical Gazette, July 1, 1842.

pared with the number of deaths from other causes, existed in the Manchester district, than was to be found in the rural parts of the country.

Of those somewhat rare but very interesting diseases of the lungs, cancer and cirrhosis, Dr. Stokes has given, in the *Dublin Journal* for May last, a very luminous account, with cases, and enters very fully into their pathology and diagnosis. A case of cirrhosis is also given by Dr. Green; and from the perusal of both details, much interest and instruction may be derived.

Trans. of the Prov. Med. Assoc., vol. ii., p. 88.

10.—YELLOW BARK.—By Mr. Richard Battley.

[This gentleman has for many years prepared a concentrated cold infusion of yellow bark, which he terms *Liquor Cinchonæ cordifoliæ*, and which, from personal experience, we can recommend as an excellent medicine. There are probably few individuals more experienced in these matters than Mr. Battley, and his opinion is in a great measure correct when he says "that the value of yellow bark has been too generally and too exclusively attributed to the quinine it contains"—and he goes on to state "it has ever been an object with me *to preserve unbroken that natural union by which several active principles are often combined in the same plant:*" and from long experience he is convinced that no method of extracting the virtues of plants is equal to maceration in *cold distilled water*, which takes up from plants, with few exceptions, all their medicinal properties. Whether acid or alkaline, gummy or resinous, bitter or astringent, the conclusions to be drawn from numerous experiments, are—]

1. Bark will yield to *cold distilled water* all its constituents except starch and woody fibre, some earthy salts, and a small portion of tannin and quinine, which can only be separated from the tissue by means of an acid. 2. 28 lbs. of good yellow bark will yield from 5 to 6 lbs. of concentrated liquor, sp. gr. 1200, containing about 10 oz. quinine; the aroma, and the greater part of the tannin and iron, and the peculiar acid of bark, of which only a small portion is lost, forming an inert salt with lime. 3. To form this liquor it is only necessary to subpulverize the bark, and macerate it from four to six hours in twice its weight of cold distilled water, repeating the process twice, or at most thrice: to concentrate the infusion over a water-bath to sp. gr. 1200, and allow the liquor to deposite the gummy matter and so much of the tannin as it cannot retain in solution. To separate any gum that may still remain in the liquor, and to prevent any decomposition, proof spirit is added to it, until the sp. gr. of the liquor is reduced to 1100. The quinine still remaining in the bark, may, if it be thought desirable, be separated by acetic acid, and precipitated from its solution by ammonia; and being re-dissolved in a small quantity of dilute acetic acid, may be diffused in the liquor.

The advantages of this medicine are—1. That it contains not one, but all the active principles of yellow bark. 2. That the greater part of the quinine is preserved *in its natural state* in combination with the peculiar acid of bark, in which it is more soluble than in sulphuric acid. 3. That the active principles *have undergone no change*, either from exposure to too great heat, as in the decoction, &c., or by being brought into too close contiguity, as in the extract, in which secondary formations take place to so great an extent that water is incapable of re-dissolving it. 4. That containing no starch and little gum, it will remain unaltered for a great length of time. 5. That the quantity of spirit contained in a dose is too small to be objectionable. 6. That it is a convenient, agreeable, and elegant medicine, miscible with wine or water in any proportion.

On its merits as a therapeutic agent I forbear to enter. I will only add, that whatever yellow bark can accomplish will be best performed either by the recent cold infusion or the concentrated liquor. The latter not only agrees with the stomach, when irritation and nausea are produced by the disulphate of quinine, but it not unfrequently succeeds in obstinate periodic and cachectic diseases when the disulphate of quinine has failed. But the liquor cinchonæ has been so long before the profession, and is so extensively employed, that it requires no observations of mine to prove its efficacy. My object, in the present paper, is rather to make generally known the exact method of preparing it, and to di-

rect attention especially to those peculiarities in the process on which its elegance and efficacy chiefly depend. *Med. Gaz. April* 28, 1843, *p.* 168.

11.—EFFECT OF TEMPERATURE IN CAUSING REFLEX ACTIONS.—By W. F. Barlow, Esq., Oxford.

[Mr. Barlow states that owing to the large extent of surface to which temperature may be applied a great number of incident nerves may be thereby stimulated at one time, and be made available in a powerful degree to the treatment of disease.]

The various muscular actions which temperature originates, when applied to the cutaneous or mucous membranes, are very numerous; some of them are amongst the most familiar of events, but are not the less worth considering on that ground. The fact that a dash of cold water will recover a person from a state of syncope is a beautiful and important truth; and it is in great measure owing to our knowledge of it that that singular phenomenon strikes us with no terror, though it bears so exact a similitude to death. The remedy is always at hand and ever efficacious. It is applied, and in a moment, breathing, and with it consciousness, the action of the senses, the power of volition, the expression of life are restored entirely.

In coma succeeding to convulsion the use of this measure will sometimes be equally striking in its result. A short time since I was called to a child whom a fit had left perfectly insensible; indeed, there was no sign of life; not the slightest respiratory movement was visible; no pulse could be detected, and the features were pale and deathlike. The respiratory, circulatory, and cerebral functions, and all the signs of animation, were instantly renewed by cold affusion. Here it may be inquired whether life would have been preserved had not respiration been provoked either in this or some other manner? Would the patient have rallied if left to himself, with bystanders looking on with consternation and doing nothing, because ignorant of what to do? Do not convulsions often end fatally than is supposed from no efficient stimulus being had recourse to when they bring on insensibility? Coma, though it may result from functional causes, as well as from organic change or injury, is never to be regarded as a light occurrence; and when attended by a cessation of the respiration and circulation, it must be viewed as a temporary, too easily convertible into a permanent death. The mechanism of the body may be unimpaired, but who can restore its action after a too long rest?

In narcotic poisoning, also, the same application is indicated urgently, but here it must be perseveringly repeated, not relinquished on a little trial. The great source of danger clearly consists in the blood being no longer duly oxygenated, through deficient or temporarily suspended breathing. The brain, therefore, becomes doubly influenced—primarily, by the narcotic, secondly, by venous blood. In an instance which I witnessed under the care of Mr. West, of Turnbridge, occurring in an infant who had accidently swallowed a large quantity of opium, and was so affected by it that there was the completest coma, a pallid countenance, livid lips, and fearful pauses in the respiration and circulation, this remedy was given a fair trial. No sooner was it used than inspiration followed, and scarcely was it desisted from ere it became needful to resort to it again. Friction was had recourse to at intervals, that the warmth of the surface might be preserved. A sort of artificial respiration was kept up until natural breathing returned, and the cerebrum awoke from its lethargy. The nerves of the skin were made to play that part, which under ordinary circumstances the vagi nerves perform (through the stimulus of carbonic acid), and so life was continued, and a perfect recovery ensued.

In cases where prussic acid has been administered, and the frame is influenced by that deadly poison, a valuable auxiliary will be found in cold affusion, to chlorine, ammonia, artificial respiration, &c.; Herbst, Orfila, and others, speak highly of its powers. In the cases of persons to all appearance dead, heat and cold are powerful measures in arousing the respiratory system; but they are not to be regarded as substitutes for other methods of resuscitation, so much as allies to them. The *first* remedy at hand must be put in force immediately; there

must be no wavering. It has been somewhat humorously remarked by Dr. Fothergill, in regard to the comparative value of inflation by the mouth and bellows, that the former is preferable (among other reasons), "as the bellows may not be at hand." The value of temperature in congenital asphyxia is admitted universally; one dash of cold water will suffice sometimes to excite breathing where it is delayed.

I think that most physiologists must concur with Dr. Marshall Hall in the opinion that the *first* act of inspiration in a new-born infant is excited through the fifth and spinal nerves, by the impression of the cold air. In breech presentations the hand of the person assisting in the delivery may primarily produce it, from being of a temperature lower than the fœtus. It was remarked by Dr. Heming that an infant which did not respire when born, breathed directly the bedclothes were lifted up. And I have noticed movements in paraphlegic limbs occasioned by their sudden exposure to the cool atmosphere, a fact which assists greatly in throwing light upon this subject. But we know that cold water readily excites inspiratory acts, and on this account, simply, it would be reasonable to conclude that cold air can do the like. Does not the same principle act in both cases, however different the medium? Cold, heat, tickling, friction, artificial inflation, &c., may become the first exciters of respiration, as the case may be; but the process is not occasioned, as that great authority, Muller, has imagined, through the impression of arterial blood on the medulla oblongata, for this view (as Dr. Hall remarks) inverts cause and effect; nor is ever the first respiratory act *purely mechanical*, resulting from the change of position which the child undergoes at birth," as the able author of "Animal Philosophy"* has affirmed.†

The cold douche has been used commonly to impress the respiratory muscles in epilepsy, and it has been especially recommended in the puerperal form of it by Dr. Denman. Applied before the convulsion it may avert it; during it, it may hasten its departure. What is the rationale of its action in these cases? May it not prevent the closure of the glottis by the full and frequent inspirations it produces? or counteract and sometimes overcome the strong efforts of expiration which mark the convulsions by causing an antagonistic action of the respiratory muscles?

Cold acts upon the uterus like a charm, and cases of flooding has saved the lives of many women. I have found it efficacious in retention of the placenta, and think that its application would sometimes make needless the introduction of the hand. The alternate action of cold and heat has been ingeniously used by my friend Mr. Simpson to occasion uterine action before delivery. The case in which he tried it was one of puerperal convulsions, in which there was a cessation of the parturient pains. He first used cold only, and found it very effective for a time, but the skin became chilled by its continued application, and it would act as an excitant no longer. "Accordingly," he says, "warm flannels were applied to restore the temperature, and then cold water was used again with decided effect." This is an example of the good result of distant degrees of temperature; in vain are heat and cold applied separately in some instances, where their alternate action would avail. Dr. Marshall Hall well observes, in relation to the neatly asphyxiated infant, "The important point to be considered is, that it is not the mere application of cold, but the sudden application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation*." The success of temperature in Mr. Simpson's case should induce other practitioners to give it a trial where labour lingers. Perhaps it would be beneficial where it would be criminal rashness to administer the ergot, which, though a most valuable remedy when it is prescribed with judgment, has been shamefully misused.

* Published by the Society for the Diffusion of Useful Knowledge.

† Dr. Scholler, of Berlin, proposes that when new-born infants appear dead from suffocation, little time should be lost before they are treated with a hasty plunge in cold water. This, he says, will often restore them speedily when other means have failed, though he cites a case in which three hours were spent in successive immersions before the infant respired. —*Lancet, May* 27, 1843, *p.* 299.

The operation of cold as an excitor of the expulsor fibres of the bladder, has been most interestingly illustrated by Dr. Currie, in his "Medical Reports."—"My friend, Dr. Ford, has mentioned to me the case of Mr. C———, of Bristol, who was instantly relieved of an obstinate stricture of the bladder, of thirty hours' duration (during all which time not a drop of water had been passed), by placing his feet on a marble slab, and dashing cold water over the thighs and legs. The effect was instantaneous; the urine burst from him in a full stream, and the stricture was permanently removed. The common remedies, particularly opium and bleeding, had been tried in vain." Facts of this kind have been noticed by several other observers.

Cold will act similarly upon the rectum; when applied to the scrotum it contracts the cremaster. In a patient of Dr. William Budd, cold water was expelled with force upon being injected into the bladder. The first act of suction may be induced by it, as Dr. Marshall Hall has showed. It is said by Professor Muller that "contractions of the iris are produced by drawing cold water into the nostrils."* Heat and cold are admirable tests of the excess or failure of the excito-motory power. They can be also used remedially where physical irritation is far less effective in calling it into play. I have many times observed that temperature excites convulsive movements in paralytic limbs, where volition is extinct altogether. Sensation may be present or absent in such instances, but it has no more concern in producing the motions in the one case than in the other. The effect is often correspondent to the degree of temperature applied. In a case of hemiphlegia, occurring in a child five years old, in which voluntary motion was entirely lost, sensation remaining, I noticed that the application of heat and cold alike produced reflex actions. The hand was immersed in water at the temperature of 90, 120, and 140 degrees. In the first case no muscular movement was perceived; in the second there were forcible spasmodic actions; in the third they were still more violent. Dashing cold water on the face and chest occasioned convulsive movements of the paralytic limbs. In paraphlegia, where no sensation could be transmitted to the brain, nor any volition from it, I have had occasion to remark the most lively reflex actions produced by temperature. The same phenomena have been witnessed by many physicians and physiologists. *Lancet, May* 13, 1843, *p.* 219.

NAPHTHA IN TUBERCULOUS CONSUMPTION.—By D. Wilson, Esq.

In this case the following symptoms presented themselves: The patient was of a fair complexion, &c., with a general appearance strongly indicative of the scrofulous diathesis. He has lost one unmarried sister, ætat. 38, from consumption, and another, married, ætat. 21, from a "bad throat." He never was very strong, and is now losing flesh and strength rapidly. He has night perspirations, and little or no appetite; wandering pains about his chest, almost constantly between his shoulders; his spine is curved (where there is considerable tenderness on pressure), bending towards the left shoulder, and causing great rotundity of that side of the thorax, posteriorly. For support, over the same shoulder, he wears a broad belt, which is attached to another encircling his chest. The walls of the thorax, on the right side, seem as if they had approximated antero-posteriorly, so that collapse and immobility are very striking. The infra-clavicular depression is not so great on the left side, throughout which respiration is highly puerile. In the entire upper part of the right lung respiration is absent, and slightly audible in spots only, in the lower part. Percussion elicits a dull sound over both infra-clavicular regions, particularly over the right. The heart-sounds are very audible over the same spaces.

I examined them again on the 5th and 7th of February. On the latter date a physician also stethoscoped him, whose diagnosis tallied with my own, in pronouncing his lungs to be the seat of tubercular deposit. On February 12th he was stethoscoped with the same result. He felt himself getting daily worse, when I, with much scepticism, determined to try naphtha, the first and only medicine he has had from me. He was ordered ten drops, to be gradually in-

* See Dr. Baly's Translation of his Physiology, p. 614.

creased to twenty drops, three times a-day. At the end of the week, to my surprise, he expressed himself to be much better; his *perspirations had ceased, his appetite and spirits were returning, the spinal tenderness had gone, the breathing was more extended in the right lung*, although very weak, and the *puerile respiration in the left lung was greatly diminished.* The treatment was continued for six weeks, when he was vastly improved in every respect; the right side seemed to have become more developed, and where collapse and immobility had previously existed, there was now considerable freedom and elevation of the ribs during inspiration. In fact, he was so well that he abandoned his medicine (naphtha). After a *week's discontinuence of it he felt much worse*, and gladly resumed taking it, *and at the end of another week he felt himself in the same improved condition as when he left it off.*

[This case confirms the opinion of Dr. Hastings on the value of this remedy. We are not disposed, however, to feel the same confidence in its powers as this gentleman.] *Lancet, June 3, 1843, p. 344.*

[Probably much of its value in pulmonary affections may be owing to its powers as an expectorant. *Napththaline* has been found to possess valuable properties of this kind, as will be seen by the following notice of it:]

This substance, when applied to the tongue, causes a peculiar heat and pricking sensation, which extends down the throat and bronchial tubes, and exciting a spasm of the latter, ends in inducing a cough of a kind very efficacious in clearing the air-cells and canals of accumulations of mucus. It is, therefore, a remedy highly suitable in the asthmatic coughs of old people, and others who, from debility, are unable to expel the matters which clog the pulmonary membrane. M. Dupasquier, of Lyons, prescribes it in the form of a syrup and an electuary. The former is composed of fifteen grains of napthaline, suspended by a small quantity of boiling alcohol in about four ounces of syrup, of which the dose is a teaspoonful every quarter of an hour until expectoration. The other form consists of naphthaline well mixed with any simple electuary, in the proportion of eight grains of the former to half a drachm of the latter · dose, a table spoonful every quarter of an hour, as before.

Lancet, July 8, 1843, p. 515.

13.—CASE OF POISONING BY COLCHICUM.—By A. T. THOMPSON, M. D., Physician to University College Hospital, &c., &c.

[The subject of the following case, John Goodrich, was ordered in a public institution six drachms of tincture of colchicum in a half pint mixture of Epsom salts, of which he took one ounce every six hours. It was ascertained that a larger quantity (six oz.) of the colchicum had been put into the bottle than was prescribed. Vomiting soon commenced after the first dose, and after the third the nose began to bleed profusely, accompanied with violent purging. Notwithstanding these violent symptoms, the medicine was continued. His medical attendant found him sitting up in bed, with his back reclined against the wall, his arms hanging listlessly beside him, his head bent forward upon his breast, and his shirt drenched with blood from his nostrils. His mouth was open, his eyes were staring, full, and turgid; the vessels of the adnata congested and the pupils dilated; pulse 170, full, bounding, and incompressible, and respiration short and hurried. Thirty ounces of blood were taken from the arm, and a mixture containing potass. carb. and liq. opii sed. was prescribed, followed by port wine and cinchona bark. This treatment seemed to rally the patient, but he ultimately relapsed and died. But we have condensed this case chiefly to hang a practical remark upon it, made by Dr. Thompson, which is as follows:]

On reviewing the treatment of this important case, I have little to remark, except that it is probable, had my assistance been sooner demanded, I should have opened the temporal artery, instead of bleeding from the arm. I am of opinion, that in the early stage of poisoning by an *acrid*, or a *narcotico acrid poison*, the poison is circulating in the blood, and that much benefit would result from rapidly abstracting a large portion of it from the vicinity of that

organ, upon which much of its energy is exerted. By such a practice, also, the sympathetic irritation would have been greatly lessened, and time would have been thus afforded for providing against the collapse, which, in all these cases, is the result to be dreaded.

London and Edin. Mon. Jour. of Medical Science, June, 1843, p. 540.

14.—URINE, AS A MEANS OF ESTABLISHING THE DIAGNOSIS AND TREATMENT OF DISEASE.—By Dr. F. Simon.

From the physical and chemical state of the urine, the attentive observing physician might obtain a great quantity of information for ascertaining and establishing a diagnosis; much of what might be said here is already known, and I shall touch on these points very superficially; much more, however, might prove to the reader not at all uninteresting. The old physicians considered the examination of the urine as an important point for judging of diseases and of their probable course; and, as we have already remarked, they made up for their deficiency in chemical knowledge by sharp and close observation; the earliest chemical examinations of the urine occurred in one of the earliest epochs of organic chemistry. Among the earlier investigators who paid attention to the urine, though very partially, I may mention Brandt, Kunkel, Boyle, and Bellini; Boerhaave, however, attempted an analysis of the urine, which, considering the time, was extremely good. Scheele's discovery of uric acid, and Cruikshanks' of urea, contributed essentially to a more correct knowledge of this secretion. The latter surgeon had already examined the urine in several diseases, especially in diabetes and dropsies. At the commencement of the present century it was chiefly Berzelius and Prout who made the urine the subject of extended inquiries; Berzelius demonstrated the existence of lactic acid, which by the earlier chemists had been considered to be acetic acid: the analysis communicated by Berzelius in 1809, of the composition of the urine, has been till within the last few years the only correct examination of the same; Prout has continued his inquiries up to the latest period. Of the more recent works on the constitution of the urine, those by Lecanu are the most prominent; within the last years, Becquerel, Lehmann, and Simon, have employed themselves with examinations of the urine in the healthy and morbid state. Several constituents of the urine, both in the state of health and disease, are very accurately known as uric acid, urea, lactic acid, the salts and the sugar of the urine; of others, probably not less important, we have a very imperfect knowledge, as of extractive and colouring matters. Regarding the quantitative composition of the urine, which is rather changeable, numerous investigations have been made by the above-named chemists. Lecanu also investigated the varieties which may be shown in healthy urine, according to age and sex.

The quantity of urine passed in the twenty-four hours, and its colour, are frequently of importance. A diminished quantity of the urine passed in twenty-four hours, is under circumstances a sign particularly of acute diseases; an excessive increase of the urine, if permanent, is oftentimes indicative of serious diseases. A dark-coloured, flaming, or fiery red urine commonly indicates an inflammatory affection; a dark brown red is generally observed in typhus. But the urine may also be coloured blood-red or brown-red by bile-pigment, which is easily detected by its reaction with nitric acid; the latter constantly indicates an affection of the liver; a blood-red urine commonly contains blood; there is then for the most part found in it a sediment of blood-corpuscles, which are recognised with the microscope; but should a little blood be contained in the urine and this in a state of solution, it may be discovered by adding nitric acid, which occasions a precipitation of coagulated albumen coloured red by hæmatine. This bloody urine indicates a bleeding in the kidneys, bladder, or, in the case of women, of the uterus. Blood flowing from the urethra comes in drops. If the blood is discharged in masses after clear urine, it comes from the bladder, and in that case it often stops up the passage from the bladder by coagulation; if the blood is distributed through the veins, partly dissolved, and not in very large quantity, it comes from the kidneys; if it be

dark, and mixed with mucus and pus, it owes its origin to an ulcer. The presence of stone-colic shows that the blood has been poured out during the descent of a renal calculus.

Blue urine has been observed, though not frequently; in the majority of cases it probably owes its origin to the use of certain medicines; black urine has likewise been observed; the connexion, however, is not yet known between the colouring matter and the morbid process; greenish urine indicates, according to Prout, an oxalic acid diathesis; sediments of oxalate of lime form, or mulberry calculi pass away; a urine, which is pale coloured, and has a bias to green, frequently indicates the presence of albumen, which is readily detected by heating to boiling or by nitric acid. In this case the urine is not perfectly clear, but slightly opalescent; its quantity may be increased, diminished, or natural. The oxalic acid diathesis of the urine indicates, according to Prout, functional disturbances in the chylopoietic system; albuminuria ordinarily indicates dropsy and an affection of the kidneys. The reaction of the urine is important for the physician. Natural urine, it is well known, has an acid reaction: the quantity of free acids in the urine and the intensity of the reaction may increase to an extraordinary degree in diseases, more particularly in rheumatism, gout, in disturbances of the digestive organs, and in certain stages of typhus; to judge correctly of the intensity of the acid reaction, reference must be had to the quantity of the urine; the greater or less acid reaction is known by the effect of the urine on litmus paper of a weak blue colour, which becomes coloured so much the more rapidly and the more deeply reddened, the greater the acid contents of the urine are. Urine with a neutral reaction commonly forms the transition from the acid to the alkaline reaction, and *vice versa*. The alkaline reaction of the urine is of great importance to the physician; it commonly depends on carbonate of ammonia, the presence of which is recognized by the odour, and the white cloud, which a glass rod developes when moistened with an acid salt and brought near to it. The urine also may have an alkaline reaction through its containing carbonate of soda, which salt finds its way into the urine by the long-continued use of carbonate or bicarbonate of soda with vegetable acids. The urine alkaline by carbonate of ammonia is but seldom evacuated in this state from the bladder; during its discharge it is commonly neutral, and becomes alkaline only in a shorter or longer time after; badly-cleaned vessels may moreover contribute much to this, a circumstance which ought to be taken into account. Urine which already on voiding it has an ammoniacal reaction, and has also a very bad smell, indicates always a serious affection of the nervous system, and especially of the spinal cord. In certain unfavourable stages of tabes dorsalis, phthisis of the spinal cord, paralysis of the lower extremities and of the bladder, the voiding ammoniacal urine is ever an unfavourable sign; in other affections of the nervous system, also, as in typhus, ammoniacal urine is observed, which, however, assumes this reaction in the majority of cases not till after it has stood for some time. In typhus the reaction of the urine may be of importance for the prognosis when the urine, after it was observed to have an acid reaction through one, two, or three periods of seven days, is finally found to be neutral, and then to have an ammoniacal odour and reaction; when this reaction lasts for several days, probably during one entire period of seven days, and then again passes into the acid, this seems in most cases to indicate a favourable termination to the disease. The urine having an ammoniacal reaction in typhus has usually a dirty, turbid, yellow-brown or red-brown appearance, and forms sediments which disappear in a great measure on the addition of free acids; also in catarrhus vesicæ, or in phthisis vesicæ, the urine becomes ammoniacal in a very short time after being voided; the large quantity of vesical mucus or pus indicates this affection; finally, the formation of urinary concretions, consisting of earthy phosphates, is in part occasioned by the neutral or alkaline reaction of the urine; the urine voided in this urinary affection, is not so dark as the urine in typhus, and commonly forms sediments of phosphate of lime, and of ammonio-magnesian phosphate. If the vesical calculus exercise an irritating influence on the parietes of the bladder, a great quantity of vesical mucus is commonly mixed with the urine.

The specific gravity of the urine, though by itself it possesses no great diagnostic value, as it depends on the variable quantity of water in the urine, may, however, claim the attention of the physician under certain circumstances; the clearer and the more like water the urine appears, the less is its specific gravity; the deeper and darker-coloured, the higher the specific gravity. This general law may admit an exception in one case, namely, in diabetes mellitus; in this disease a urine is voided either normal or pale, seldom deeply-coloured, the high specific gravity of which (1020—1060) is in contradiction to the colour; this high specific gravity imperatively requires a more strict examination of the urine. More than all other signs the correct examination of the sediments is of importance for the physician. Healthy urine forms only after long standing a light, sinking cloud of vesical mucus; every other separation in the urine is of a pathological nature. The urinary sediment consists either of organic formations, as mucous corpuscles, purulent corpuscles, blood, &c., or of heavy, insoluble salts or acids, or lastly, of an admixture of both; the microscope will throw light on this.

The sediment consists of organic formations. If the urine has not a blood-red colour, the sediment is white, grey, dirty-yellow, and with the microscope can be seen mucus, or pus-corpuscles; here the sediment is constantly mucus, if the urine contain no albumen; it is probably pus, if the sediment is deposited rapidly after the urine is voided, and the urine contains albumen. It is not necessary now to state of what importance it is to discover and appreciate mucus and pus in the urine; in catarrhus vesicæ the mucus sediment frequently assumes a very glutinous quality; this, however, happens only when the urine begins to become ammoniacal, which in urine containing mucus, often occurs in a very short time, as we have already mentioned; the same may be said of pus, and it is good in this case to test the presence of albumen not by boiling heat, but by nitric acid. If the sediment is blood, the blood-corpuscles are then seen with the microscope; the urine standing over this is also of a blood-red colour. Of the import of blood in the urine I have no remark to make. If the urine contain albumen, and there exist at the bottom a mucous sediment, it is of great importance to examine this with the microscope. We may find therein, as I have observed, peculiar long prominences, partly filled, partly transparent, and round spheres, twice or thrice as large as mucus-corpuscles, filled with dark, granular contents, which beyond a doubt have their origin in the kidneys, and denote a morbid state of this organ. These peculiar forms I have frequently and at different times found in the urine of a person labouring under morbus Brightii.

The sediments which are not of an organic nature, may in like manner be easily recognized with the microscope and some few re-agents; they are either crystalline or amorphous, present themselves either in acid, neutral or alkaline urine, and are readily distinguished; in acid urine sediments of uric acid present themselves, urate of ammonia, urate of soda, oxalate of lime, cystin. The greatest number of sediments which present themselves in acid urine consist of urate of ammonia; less frequent are those consisting of uric acid, still rarer are those consisting of oxalate of lime, and the most uncommon of all are those consisting of cystin. Sediments consisting of earthy phosphates do not occur in urine having a strong acid reaction. Every sediment occurring in acid urine from yellow to brown, from red to purple-red, appearing under the microscope as an amorphous precipitate, or as large and small globules aggregated together, which is dissolved entirely or almost entirely on warming the urine, is urate of ammonia; to this belong accordingly all the so-called critical separations in the urine; the species of separation of the urate of ammonia is very various, and it appears sometimes as mere turbidness, without forming any sediment whatever, sometimes it lies at the bottom of the vessel as coloured mucus or pus, at other times heavy, like an earthy precipitate. In the case of those diseases, which in the course of their development admit a termination by a critical separation in the urine, the kind of separation is of importance. The heavier the sediment lies at the bottom, and the clearer the urine is that stands over it, the more decided is the crisis allowed to be; whilst the lighter the sedi-

ment floats, and the less disposition there is to a perfect deposition, the more imperfect is Nature's effort to break down the disease by a crisis. The various colourings of the sediment are characteristic for some diseases; in acute rheumatism of the joints, in intermittent fevers, the critical sediment is observed to be coloured red up to a brown red; in acute diseases of the liver the sediment is rose-red; in typhus it has a dirty-red colour; in some diseases the appearance of the sediment appears to be of no constant critical import, as, for example, in typhus.

A sediment in the acid urine, which is not dissolved on heating the urine, and which appears crystalline when observed either by the unarmed eye, or with the microscope, and is coloured yellow up to vermillion-red, is uric acid. It ordinarily appears in the form of rhombic plates, and in the majority of cases mixed with urates of ammonia, where it then forms the undermost and dark-coloured layer of the sediment. That the deposit of uric acid is of critical import, is scarcely to be doubted; in gout and in cases of renal calculi, where the deposits consist of uric acid, uric acid or the discharge of gravel form the most perfect crisis; in many other diseases we still want the necessary observations concerning the critical value of uric acid secretions. The sediment of oxalate of lime presents itself more rarely than those before mentioned; it usually forms a white precipitate; observed with the microscope, it appears in the form of small octoedra, or of little spheres arranged one by the other; it is not soluble in acetic acid, but readily in hydrochloric acid; when sulphuric acid is poured on it, it disappears, and after some time long lancet-formed plates of sulphate of lime are seen.

Respecting the diagnostic value of the oxalate of lime in the sediment, sufficient observations are still wanting; it is probable that it is connected with serious disturbances in the chylopoietic system; that we should be attentive to the possible formation of stone of oxalate of lime, where the sediment shews itself frequently and permanently in the urine, is of importance; however, the physician, in order to judge of the phenomena more correctly, must also have reference to the diet, as oxalic acid may be conveyed into the body by various sorts of food.

The occurrence of cystin in the urinary sediment is very rare. It is easily recognised by its remarkable form; it forms faint yellow-coloured hexaedral plates. According to Prout, the appearance of cystin in the urine is a very unfavourable sign, it indicates the formation of cystin calculi. In neutral urine, or that with an alkaline reaction, besides the sediments already mentioned, precipitates of earthy phosphates present themselves; they are readily known by this; that they disappear on acidifying the urine with acetic acid or acid salts: the phosphate of magnesa, commonly combined with ammonia, is distinguished by its crystalline form; it appears in colourless prisms obliquely tinctured, very frequently in the form of a roof; the calcareous phosphate appears almost always as an amorphous precipitate; as the earthy phosphates are constantly present in the normal urine, their precipitation is commonly to be looked on as a consequence of the formation of ammonia, the free acids by which the earthy phosphates were previously dissolved being neutralised by this alkali; in some cases, on the contrary, the appearance of earthy phosphates in the sediment is of diagnostic value. In affections of the spinal chord the phosphate of magnesia, more especially, appears to be secreted in great quantity; in affections of the mucous membrane of the bladder, the phosphate of lime appears in large quantity; in three cases of inflammations of the respiratory organs, at the time when resolution of the disease set in, I have seen the previously acid urine become neutral, and have observed, as a precipitate, the secretion of a considerable quantity of already formed crystals of ammonio-magnesian phosphate, perceptible to the naked eye, at the same time that in two of these cases the clear urine held so large a quantity of urate of ammonia in solution, that precipitates of uric acid were instantly produced by every acid. When calculi of the bladder are present, which consist of earthy phosphates, the urine frequently contains sediments of earthy phosphates, with which a greater or smaller quantity of mucus is mixed. In scarlatina the urine is observed to be turbid at the time

of the desquamation, often also before the occurrence of the same on the outer cuticle; when it is observed with the microscope, an extraordinarily great quantity of the epithelium of the vesical mucous membrane is seen in it. It is, therefore, to be admitted, that the desquamation goes on also on the mucous membrane of the bladder; and if, as frequently appears to be the case, the scaling off takes place earlier on the mucous membrane of the bladder than on the external skin, one may determine the commencement of the scaling off by examining the urine.

The knowledge of the chemical composition of the urine is of very great value for diagnosis and prognosis; especially as far as concerns the presence of matters which are not found in the normal state of the urine: albumen is readily discovered in the urine by heat or by the addition of nitric acid; if the urine is acid, heat is preferred; if alkaline, nitric acid. The presence of albumen in the urine is always of great import, and the correct estimation of the same as a means of diagnosis not altogether easy; cases are known in which albumen was observed in the urine of healthy individuals, or set in in consequence of disturbance occurring in the digestive organs; in the great majority of cases albuminuria is the attendant of dropsical phenomena, or the forerunner of them, the urine is then commonly clear, evinces a tendency to green, and contains much albumen; but there are cases of dropsy known, which set in altogether without albuminuria. That the presence of albumen in the urine does not infer the presence of Bright's degeneration of the kidneys, has been sufficiently proved; where degeneration of these organs is suspected, great attention must be directed to the mucous sediment of the urine. In violent inflammations, as well as in typhus, small quantities of albumen are sometimes found in the urine; the urine is then generally very dark, and has an acid reaction; according to Becquerel, this appearance of albumen in cases of inflammation appears to be connected with a congestive state of the kidney, and as this, unless the disease is itself an inflammation of the kidneys, seems to occur only in very violent and intense inflammations, the appearance of albumen in the urine accompanying inflammation might be a sign of the intensity of the inflammation. In consequence of inflammatory exanthems, especially in the desquamatory stage of scarlatina, albumen sometimes is observed to exist in the dark-coloured urine, and sometimes, though, more seldom, blood. It is, therefore, a matter of importance for the physician carefully to examine the case, as this heterogeneous mixture is not unfrequently the forerunner of dropsy; however, dropsy has been observed after scarlatina without albumen in the urine, and albumen in the urine without dropsy following thereon. At the commencement of diabetes mellitus, albuminuria is no rare phenomenon, and of great importance to the physician. The occurrence of albumen in this case is not constant, but alternating, it appears, before a trace of sugar can be observed, and when the sugar begins to form, it sometimes ceases again, and passing off, it gives way to the albuminuria.

To demonstrate the presence of sugar in the urine is the principal means of satisfying oneself of the existence of diabetes mellitus. If the quantity of sugar is considerable, it is easily discovered in the alcoholic extract of the urine after evaporation; if only traces of sugar are present, the sulphate of copper is used to demonstrate its presence, as we shall see at another time. Gall pigment in the urine is constantly a sign of the liver being affected; we have already stated that this can be discovered by the addition of nitric acid; but to infer the presence of gall pigment from the colour of the urine is sometimes fallacious.

Med. Chir. Rev., July, 1843, *p.* 38.

15.—EXOSTOSIS OF THE SPINE.—By Francis Battersby, A. B., M. B., &c.

Exostoses, or bony vegetations, arising from the bodies of the vertebræ (independent of any disorganization of these bones) are by no means of rare occurrence; most pathological collections contain numerous examples of their different stages, especially of what seems their natural termination, viz., perfect anchylosis of the affected bones. This anchylosis may be more or less extended, affecting but two neighbouring vertebræ, or perhaps the greater part, more

rarely the entire of the vertebral column, while the new bony material is found to vary from a thin lamina to a prominent and rough projection, occupying the situation of, or more properly covering, the subjacent intervertebral cartilage.

[Few writers have alluded to this subject. Wenzel is the only one who treats of it in detail, and even he does not connect with it any well marked symptoms during life. Although the affection may have advanced to complete anchylosis, there may be an absence of all severe pain when the bone is handled; which is remarkable, considering the displacement and injury those important nerves must undergo which are so closely connected with the front of the spine, more particularly in the lower part of the dorsal and lumbar regions. Dr. Battersby relates some interesting cases to prove that these nerves do occasionally suffer from the disease giving rise to a train of most painful symptoms which have baffled the diagnosis of the most skilful practitioners. One case particularly is related which proves this. A train of the most painful symptoms terminated in the death of the patient.]

On displacing the abdominal viscera, the inter-vertebral spaces of the lumbar region were at once observed to be singularly prominent, the cartilages being partially faced with irregular bony protuberances, so as nearly to unite the adjoining bones. A section of the vertebræ was removed, and a large nervous twig was discovered lying stretched over the most prominent of the new formations which engaged the sides of the vertebræ. The anterior vertebral ligament had a marked glistening appearance, and on dissection proved to be very much thickened, while underneath it was formed a new dense structure of a fibrous nature, in which all the characteristics of the periosteum were lost, and the surface of the bones, to which it was intimately adherent, was rough and irregular. There was no distinction between the fine cancellated structure of these and their new processes. The bones were quite healthy, as also the cartilages. The spinal canal was opened from the sacrum to the middle of the dorsal region. There was about an ounce of clear fluid in the interior of the sheath of the cord, which, like its membranes, was perfectly natural. The only irregularity here discoverable was two little points of bone on the posterior aspect of the bodies of the dorsal vertebræ, which felt through the dura mater, which was unremoved, about the size of pins' heads. The openings for the nerves were perfect.

This gentleman's sufferings, for the space of nearly two months, could not be surpassed. The extent of the torture he endured could scarcely be imagined by any one who had not witnessed it, and most distressing it was for those who did, not to be able to afford the least relief, except by the administration of opium, which was given in increasing doses, so that towards the conclusion, he used to consume more than a scruple of the muriate of morphia daily, and that merely with the effect of mitigating the pain. The new bone, in occupying the situation of the lumbar ganglia of the sympathetic, gave rise to the symptoms of visceral neuralgia, by irritating these and their branches, while the same irritation communicated through the lumbar nerves (which are in direct connexion with the former) to the spinal cord, its functions became deranged both above and below the point of irritation, exhibiting what Dr. Marshall Hall denominates the morbid, direct, and retrograde action of that part. I am not disposed to consider as of any importance the points of bone found projecting into the spinal canal, they seemed too minute to cause any bad effect, but it is not improbable that the constant dull pain in the back was due, in part at least, to the state of chronic inflammation in which the ligamentous structure in front of the spine must have been. The progress of the paralysis was very remarkable as pointing to the spinal origin of the symptoms. It first appeared over the upper part of the abdomen, then attacked the lower extremities, and lastly, the integuments of the chest and arms.—*Dublin Jour. Med. Science, Sept.* 1843, *p.* 77.

16.—HEMOPTYSIS, PULMONARY APOPLEXY.—By Dr. Graves, Dublin.

As there are two sets of vessels from which the blood sent to the lungs is derived, the bronchial and the pulmonary, so also are there two sources from whence hemoptysis may derive its origin. Now, as is observed by Dr. Graves,

the bronchial artery destined to supply that blood which is necessary for the nutrition of the pulmonary texture is small, and its blood arterial, or red, while the pulmonary artery on the contrary is large, and transmits the whole of the dark venous blood of the system from the right cavities of the heart through the lungs. It is sufficiently obvious, therefore, that the danger to the patient, and consequently the importance of the symptom, will be materially modified by the source from which the blood expectorated or poured out into the pulmonary structure is derived. Dr. Graves, from considerations arising out of the minute anatomy of the lungs, which it would be impossible to enter upon here, endeavours to show, "that when hæmoptysis, from the engorgement of the system of the pulmonary artery, takes place, it is in consequence of the direct effusion of blood from the branches of the pulmonary artery, which ramify on the air-cells, and that the blood expectorated on such occasions has nothing to do with the bronchial mucous membrane, or bronchial arteries;" and further that the blood may escape also into the inter-vesicular pulmonary tissue, where, having no exit like the portion which is thrown out into the air-cells, it must remain. The union of these two forms of effusion from the minute branches of the pulmonary artery constitutes the disease termed pulmonary apoplexy; but it is important to be aware that the affection characterized by all its essential symptoms may occur without hæmoptysis, an instance of which is quoted by Dr. Graves from the Dublin Medical Transactions. Are there any sufficient characteristics by which it can be ascertained whether the blood in expectoration is derived from this formidable source, or whether it comes from the bronchial artery? Let us see what Dr. Graves himself says upon this point:

"In the first place the blood (from the pulmonary artery) is black, as you can perceive when it is spit up. It is also clear, that if this blood be detained for some time in the air-cells and bronchial tubes, it will become coagulated, and be spit up in clots. Many of the worst cases of spitting of blood are attended with this symptom; and it is not [?] a mistake to suppose, as you see it mentioned in books, that blood expectorated from the lungs should be florid and frothy. You are told, gravely, that you can distinguish blood discharged from the stomach from that which is discharged from the lungs, by the difference of its colour, consistence, and the presence or absence of air-bubbles. No, gentlemen, you cannot. If you see blood spit up which is dark and coagulated, and, from stethoscopic examination, have reason to think that it comes from the lungs, you will be convinced that the effusion is from the pulmonary artery. I do not mean to say, that when blood comes from the pulmonary artery it is always black and clotted; but I assert that it is so in a great majority of cases; and in many cases of pneumonia we find the sputa partake more of the venous than the arterial character, a circumstance which indicates its formidable source. It is obvious that the blood spit up in those cases may also have a florid tinge, where it has been imperfectly aerated by the imperfect action of air bubbling through it before it is expectorated. There are some hæmorrhages also, from the bronchial artery, which are very copious; but, generally speaking, where there is much cough, constriction of the chest and fever, it is the bronchial mucous surface which is affected; and the spitting of blood which, in such cases, comes from the bronchial arteries, is but scanty, and is seldom dangerous. The blood will be found to be effused from small spots, as in epistaxis, and the quantity is generally small. You will, however, sometimes find an instance of a person spitting up, very copiously, blood of an arterial colour; for it must be borne in mind that a very small surface of mucous membrane may often bleed most copiously, as is seen in some cases of epistaxis, when the blood issues from an insulated and small spot. Such cases of copious bronchial hæmorrhage occur occasionally, are unconnected with bronchitis, and depend on some peculiar hæmorrhagic tendency."

The chief source of the immediate danger in cases of congestion of the pulmonary artery leading to hæmotypsis, is not then from the amount of blood lost to the system, but from the plugging up and obliterating of the ultimate divisions of the air-tubes by the blood effused into and around them. This is important to be borne in mind as a guide to practice, since no hesitation need

be experienced, at least in the outset of the attack, in attempting the relief of the congested state and the consequent arrest of the further progress of effusion by copious depletion. The effusion from the branches of the bronchial artery, on the other hand, is seldom extensive, and is derived, Dr. Graves thinks, in phthisical cases in which it is of such frequent occurrence, rather from the congested state of the bronchial membrane so commonly connected with that affection, than from ulcerative action implicating the vascular tissue. We regret that we cannot follow the author throughout the many important questions which are here brought before us, but we must rest contented with recommending his views to the close attention of our readers, and referring them for comparative illustration to the work of Reissessen, and the paper recently published by Mr. Addison in the Transactions of the Royal Society, on the minute structure of the lungs, to the article Hæmoptysis in the Cyclop. of Pract. Med. by Dr. Law, and Dr. Townshend's Essay on Pulmonary Apoplexy. We have already stated that in cases of pulmonary apoplexy no hesitation should be experienced in the employment of free depletion; after this has been practised, the remedy in which Dr. Graves reposes most confidence is ipecacuanha given in doses of "two grains every quarter of an hour, until there is some improvement, and then every half hour or hour, until the bleeding stops." We are indebted to Richter for first making known the powers of ipecacuanha in restraining hæmorrhage, the effects of the remedy being not confined to hæmoptysis. Dr. Graves recommends that its employment be preceded by a purgative enema, and a saline cathartic, and states that it may be given with advantage in hæmorrhage from the bowels, and even in hæmatemesis, he preferring it to the acetate of lead, which he employs only in those cases of passive hæmorrhage in which opium is indicated, and then in combination with the last remedy.

"I look on tubercular development and consumption as the consequences of that particular state of constitution, which occasions what is falsely termed tubercular inflammation, a state of constitution in which we have three distinct processes, attended by corresponding morbid changes, each different in itself, but depending on one common cause. Every form of consumption, which has hitherto come under our notice, is referrible to one common origin, and this is that debilitated state of constitution which has been termed the scrofulous habit. One of the first tendencies of this habit is to the formation of tissues of an inferior degree of animalization, among which I class tubercles, whether occurring in the lungs, brain, or liver, whether they exist in a minute or granular form, or in large, soft, and yellow masses, or in the state of tubercular infiltration. I look on them as one of the first of those morbid changes dependent on a peculiar constitution of body, and most commonly found to accompany it. The weaker the constitution is, the greater tendency is there to generate tissues of a lower degree of vitality, and, on this principle, I think we can explain the occurrence of entozoa and hydatids. There are some cases in which you will never be able to prevent the generation of intestinal worms, until you direct your attention to the source of the evil, which lies in the weakness of the constitution, for, in such a state of the system, all animals are liable to the formation of parasitic productions and tissues imperfectly animalized. I look on tubercle in this light, and not as the consequence of inflammation, nor do I consider that it has been proved that tubercular development is the cause of phthisis."

Dr. Graves contends that in all cases of phthisis, "the pectoral symptoms, of whatever nature they may be, are caused by scrofulous inflammation," by which we presume that he means, inflammation as it occurs in individuals of a scrofulous diathesis, and he proceeds to compare the progress of ulceration of the lungs with that of external scrofulous abscesses. There is, he observes, the same slowness, the same insidious latency, the same gradual solidification and gradual softening; the puriform fluid secreted is similar in characters, while there is the analogous occurrence of burrowing ulcers and fistulous openings with close approximation in the form of thin parieties, and difficulty of healing in each; and, at the same time, constitutional symptoms identical in nature; hectic flushings and sweats, diarrhœa, emaciation, &c., equally accompany phthisical suppuration of the lungs and scrofulous inflammation of the joints

or other external parts. With these views, therefore, we are not surprised to find Dr. Graves entertaining the opinion that tubercle, though a most frequent accompaniment of phthisis, is neither the essential cause of that disease nor a necessary product. Scrofulous inflammation is with him the *fons et origo*, the real and efficient cause of phthisis, whether tubercle be generated in the course of the diseased action or no, and thus we have scrofulous pneumonia and scrofulous bronchitis equally productive of phthisis without the presence of one single tubercle or spot of deposition of tubercular matter, either in the pulmonary tissue or on the bronchial membrane. In the latter case, scrofulous bronchitis, it is urged by Dr. Graves that the accompanying fever presents all the material phenomena of phthisis; there is the same emaciation, frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted although not mixed as in cases of true phthisis with broken-down tubercles.

"We may, therefore, have tubercles without either the pneumonia or the bronchitis; and we may have scrofulous pneumonia often ending in slow burrowing suppuration, and proving fatal without any tubercles being formed. In like manner, a person may die of scrofulous bronchitis without the occurrence of either tubercles or pneumonia. Of these three effects of scrofula, it may be remarked that, owing to their cause and origin being the same, they are most frequently found in combination. The same diathesis which produces one may give rise to the others; hence the frequency of their association; hence it is that they generally occur together."

The form of phthisis in which this practice is stated to have proved successful in effecting a cure, is where the lungs become affected before any general contamination of the system takes place. "It is in such cases, and such only," says Dr. Graves, "that mercury ought to be tried, and it will avail nothing except when the commencement of the scrofulous inflammation of the lung has arisen suddenly, and in consequence of the operation of some obvious cause, as catching cold or the occurrence of hæmoptysis." Some instances are related of the good effects of this plan of treatment, and the observations of Dr. Munk on the same subject quoted at length from the Medical Gazette. The practice is not altogether new, but has been before recommended and followed by Dr. Rush, and some other American physicians. They, however, failed to indicate the class of cases in which it was calculated to prove of service, and the indiscriminate employment of the method, and its consequent want of success in a vast number of instances may probably have been the cause of its having fallen into disuse. In the cases in which the mercurial treatment proves applicable, the tubercular affection, however, would seem to be of only secondary importance, so that this method appears to be chiefly serviceable in scrofulous pulmonary inflammation, rather than in tubercular phthisis, affording an additional reason derived from curative indications for retaining the term phthisis in its more definite sense. *Brit. and For. Med. Rev., July*, 1843, *p.* 248.

17.—TREATMENT OF CHOLERA.—By C. Searle, M. D., Bath.

The symptoms of cholera are the following: Vomiting and purging, with general debility, under ordinary circumstances of attack, and apopletic seizure in extreme cases; serous evacuations, arrest of the secretions of bile, urine, &c.; coldness and lividity of surface; inflammation of the stomach and bowels; cold sweat; coma; a train of symptoms strikingly characteristic of the influence of a poison upon the system, whose operation is to arrest or impede the primary function of life—capillary action. The principal indications of treatment arising out of these views of the disease are obviously to supersede the poisonous agent upon the system, or, in other words, to restore excitement to the capillaries, and to purify the blood from the presence of the poisonous cause. These indications, the following observations, the result of long experience and particular attention to the effects of mercury upon the system, lead me to say, are all to be fulfilled by this remedy, the primary operation of which I believe to be specific upon the capillary vessels, exciting them to increased action, by imparting certain qualities to the blood, probably adding to its ca-

pacity for oxygen, or otherwise increasing the affinities between the oxygen of the blood and the other elements of its composition, and thereby developing increased chemical action. Hence the general influence of mercury upon the system, its renowned deobstruent power, as well as its operation on the glandular system, in increasing all the secretions. The more obvious and immediate effect of mercury on the liver, as evinced by the operation of two or three grains of calomel almost with certainty producing a bilious evacuation, is doubtless attributable to its primary and direct influence upon the liver, to which, when absorbed from the stomach and bowels by the veins of these organs, which form the roots of the vena porta, it is first conveyed, before it enters the general current of the circulation. Its operation in exciting the capillary arteries, and thereby secretion, necessarily removes obstruction from the exhalents, and congestion from their venous terminations, and thus is exudation prevented and absorption increased; and hence the accredited action of mercury upon the absorbents in removing the various serous exudations. Its power of increasing capillary action is further evinced by the febrile commotion it excites in the system, and the buffed blood of those under its more abundant influence; effects, on the exhibition of mercury, which should be guardedly watched, as, when they arise, necessarily prohibiting its further employment, and which exhibit to us that the indications for its use in inflammation are limited to the atonic stage, and that in no case should it be given in the active condition involving the heart's excitement, save in very guarded doses, and then only in conjunction with other evacuants. But when the more active condition of inflammation has been moderated by bleeding and other evacuants, or debility has succeeded to excess of febrile excitement, its administration then supports the due action of the vessels, excites the secretions, and invigorates the heart, in common with the rest of the functions, and becomes our chief remedy; and, carried to the extent of producing ptyalism, which appears to mark its ultimate effects for good, it is of all remedies the most valuable.

In thus viewing the operation of mercury upon the system, it would appear a specific or a directly antagonist agent to the cause giving rise to this disease; and experience justifies me in saying that, of all remedies, it will prove the most useful, given in large and frequently repeated doses, commensurate with the diminished absorbing power of the stomach and susceptibility of the system to its influence. Its operation, or rather its introduction into the system, should be assisted by diminishing the congestion of the brain and vascular fulness of the stomach by small bleedings cautiously practised, when indicated, as with persons of full habit, and in others where the excretions of the bowels, which I look upon as curative efforts of the system, are not excessive; and its employment preceded by securing a clear stomach, by the agency of a stimulant emetic, as of mustard flour, or culinary salt. And as accessory agents to the operation of the mercury and to the treatment of the disease, recourse should be had to diffusible stimulants, as ammonia, warm brandy and water, and the like; and, above all things, the inhalation of oxygen, or the nitrous oxyde gas, where either of these are to be obtained; and where not, the ammoniacal gas might be cautiously tried with prospect of benefit. Stimulating saline enemata are also useful remedies, and especially so when vomiting is a troublesome symptom. Warm stimulating frictions of the skin, with sinapisms to the spine, præcordia, and extremities, are also essential auxiliaries, with especial attention that the patient preserves at all times the recumbent posture.

And thus, as in the cold stage of fever, of which the symptoms of cholera are but effects of an analogous character and a more exalted kind, we may continue these remedies in a ratio with the severity of the symptoms till excitement becomes developed, and the mercury (calomel) till the secretions of the liver, which are first green, and often spinach-like, become of fluid yellow appearance, moderating the excitement at the same time, if it becomes too exalted, by antimony, saline aperients, or castor-oil and a cooling beverage. And we should carefully watch and guard the organs previously congested, from gastroenteritis, or other inflammation, which too often becomes developed, by the timely application of leeches, for which reason, and also to more perfectly pu-

sify the blood, it is in my opinion advisable to continue the mercury to the effect of inducing gentle ptyalism, and, as the influence of the mercury subsides, to administer the quinine to the extent of three or four grains per diem till health is established.

M. Mialhe, it has recently been announced in the pages of the Lancet, states that the action of mercury upon the system is consequent upon its becoming converted into a bichloride by the hydrochloric acid of the stomach, and proposes, therefore, a solution of the bichloride as the ordinary mode of its administration. The idea appears to me to be well deserving of attention, and especially so in the treatment of cholera, in which the secreting and absorbing powers of the stomach are so much impaired as, indeed, to be rendered often nugatory, defeating all our attempts to influence the system through the medium of this organ; to which cause I believe it to be, in a great measure, that the disease proves so often fatal, and which led me some years ago to suggest the inhalation of mercurial vapour, the lungs being the most actively absorbing surface of the whole body. M. Mialhe gives the following form for what he designates a normal solution of the bichloride of mercury, as the most favourable form for its admission into the blood, and which accordingly is recommended to trial:—

℞. Bichloride of mercury, five grains; chloride of soda; hydro-chlorate of ammonia, of each fifteen grains; white of one egg; distilled water, one pint.

Mix the albumen and water, and filter; then dissolve the salts in the solution, and again filter. One ounce contains half a grain of bichloride.

Lancet, July 8, 1843, p. 506.

18.—LOCAL HYSTERIA.—By R. B. Todd M.D., F.R.S., Phys. to King's Col. Hosp., &c

It is difficult to assign a cause for the fixation of the hysterical phenomena in particular localities. We have, indeed, very much the same difficulty here, as in explaining other examples of general or constitutional disease exhibiting local symptoms. It may be that, in many cases at least, the local symptoms should be regarded as reflected nervous phenomena, either of sensation or motion; some part of the great gastro-intestinal surface, or some internal viscus, being the seat of a primary disturbance, which creates an irritation of a portion of the nervous centre, and this affects some sentient or motor fibres connected with it, which propagate their irritation to some peripheral region. Or, again (and this perhaps is of rare occurrence), there may be some immediate irritation of a part of a nervous centre, not propagated from any sentient surface, but caused by some local disturbance of the circulation, and, consequently, of nutrition. Or, lastly (and this is not unfrequent), the patient may have received a strain or hurt at some part, and her attention being strongly directed to that part, and her anxieties aroused respecting it, that part has become the seat of a fixed pain. And even if there has been no previous injury, there can be no doubt that a part may become irritable and painful, about which the patient's thoughts and anxieties have been occupied for a considerable time. I could quote to you many authentic instances of this power of the mind to create pain, as it were, or to perpetuate it, after it had been excited by some physical cause. But it must suffice for me, at present, to direct your attention to the fact as one of which it is most important that the practitioner should be cognizant. I do not profess to give an account of *all* the forms that local hysteria may assume, so many and so various are they. I shall, however, briefly refer to the principal varieties that are likely to be met with in practice.

Pain in the Side.—Among the most common forms of local hysteria are those pains in the right or left side; of these I believe the most frequent is that on the left side; the pain is referred to a spot immediately beneath the left mamma, corresponding very nearly to the situation of the apex of the heart. In most cases the pain is increased on pressure; sometimes, however, firm and steady pressure gives ease, and I have sometimes observed patients to make pressure themselves, in order to obtain some relief. It is quite extraordinary what a common symptom this pain is, or that on the right side. If you watch the out-patients of this hospital for a day or two, you will find a large proportion of the fe-

male applicants complaining of pain in the left or right side. It is very frequently (that on the left side especially) accompanied with leucorrhœa or some form of uterine derangement, so much so, that now, after I have learned that a young woman of hysterical appearance complains of this pain, my next question invariably refers to the existence of leucorrhœa. In some instances this pain is always increased on inspiration, and is attended with a short but frequent cough, without expectoration. If there be any emaciation, or if there has been phthisis in the family, the fears of the patient's friends become excited, lest this cough and pain should be the forerunners of consumption. And it is not always easy to assure oneself that the irritation of nascent tubercles may not have some share in the production of the phenomena. Some time ago I was consulted in the case of a young lady of good family, who, from a long-continued pain in the left side and frequent cough, was considered to be phthisical, and, in consequence, was kept in a regulated temperature for a considerable period. By several very careful examinations of the chest, I felt myself at liberty to pronounce her free from tubercular disease, and prescribed an opposite mode of treatment, good air, carriage exercise, and tonics, with great advantage; and now I sometimes see this lady, who enjoys good health, but is subject to the occasional recurrence of this pain in the side and cough, whenever any anxiety occurs to excite her hysteria.

Irritable Spine.—The irritable spine is another form of local hysteria, which, if treated on erroneous principles, or if its real nature be not detected, may lead to very serious consequences. This affection has been deemed of sufficient importance by some practitioners, to merit its being designated by the special name of *spinal irritation*. But this term is highly objectionable; for it implies that the essence of the patient's malady is to be found in the spinal affection, and that the treatment is chiefly to be directed to relieve the local suffering. And many who have written upon this subject have striven, on very insufficient evidence, to show that the spinal cord itself is at fault. The truth, however, is that the spinal irritation is but a symptom of a general state, a local malady depending on a constitutional cause. These cases are often mistaken for actual disease of the vertebræ, and patients have been confined to the recumbent posture for its cure, a mode of treatment admirably calculated to perpetuate the real complaint. It often happens that the patient has difficulty in walking, and this is regarded as the consequence of the spinal affection. She at first finds herself easily fatigued; the pain in her back is increased by walking or standing; she gradually becomes disinclined to move, and gets accustomed to the horizontal position, and therefore readily yields to any suggestions in favour of quiet, or reluctantly obeys the advice which recommends an opposite plan. The most acute pain is felt over a particular spot on the back. Slight pressure will produce it, when the patient's attention is alive to it; and firm pressure will often fail to create it when her attention has been diverted from it. But there is always a good deal of tenderness in the whole course of the spine and in other parts also. You will derive great assistance in your attempts to distinguish the real nature of this affection, by attending to the nature of the pain; it is always of that *exaggerated* kind which I alluded to in my last lecture, as being characteristic of hysterical pain. It is much more acute than the pain which attends diseased vertebræ; it is more superficial, so as often to appear, as I believe it is, seated in the skin that covers the spinous processes. We had one of these cases here not long ago, which very forcibly illustrated the importance of a right diagnosis. A young woman, of highly hysterical constitution, was sent here for pain in the back and weakness of the lower limbs; she declared that she was quite unable to walk, although she could move her limbs very well as she lay in bed. There was great tenderness over two vertebræ in particular, but the whole spine was tender also. She had been treated for some time by rest, and her spine had been cauterised. We humoured her a little for a day or two, and then I thought it right to assure her that she could walk, and that she must walk a little every day. I had her taken up and supported between two women, and by making her move about the ward in this way a little every day, and increasing the walk each succeeding day, she soon began to find out that she had the use of her limbs, and ere long was enabled to walk to the shower-bath.

I may remind you of another case still in the hospital, in which this plan of treatment was pursued with very striking success. This is the case of the woman named Collier, in Augusta ward, who has been so long under treatment. She was sent here completely paraphlegic, and stated that she had been bed-ridden for ten years. On examining her I found some tenderness of spine, but no unnatural condition of it. The power over the bladder and rectum was unimpaired. She is highly hysterical and rheumatic also. The lower extremities, from disease, were completely wasted; she could not stand, but as she lay could move about her limbs freely. I encouraged her to expect a cure, and told her that she must exert herself. She was supported by the nurses and made to walk a little every day, and after persevering a few weeks in this treatment, she was able to walk a little alone; by-and-by she got on with the help of a stick, and now she can walk up and down stairs without any assistance. Had we treated this poor woman on the supposition of her having spinal disease, she would have been bed-ridden all her life. And, indeed, I attribute the slowness of her recovery (for she has been several months under treatment) to the extreme atrophy of her muscles, and, as we may fairly assume, of her nerves too, which was brought on by the disuse of them for so long a time.

Pain in the region of the sacrum and in that of the coccyx are less common forms of local hysteria. They may probably be connected more directly with uterine irritation, and in some instances, perhaps, with imperfect action of the rectum, and accumulation of flatus in it.

Local Pulsation.—We had lately a case in which this form of local hysteria was very well marked; and it was accompanied with another symptom not uncommon in hysterical persons. This was a strong pulsation of the arota in the epigastric region, simulating aneurism. For some time the pulsation appeared so strong, and was so circumscribed, that had I not known the decidedly hysterical character of the patient's constitution, I should have felt considerable apprehension on her account. However, as her strength improved, and her catamenia became regular, these symptoms disappeared.

Hysterical Affection of Joints.—The profession is much indebted to Sir Benjamin Brodie for having directed attention to the frequency with which local hysteria manifests itself, especially among the higher classes, in the form of affections of the large joints, simulating those diseases with so much accuracy that practitioners have frequently been misled by it. Sir Benjamin states the remarkable fact, which no one is so well able to ascertain as a surgeon of his great experience, that four-fifths of the supposed cases of joint-disease which occur among the higher classes are hysterical. This statement ought to impress us strongly with the importance of being well acquainted with the peculiar features of these hysterical affections of the joints.

You will, of course, expect to find in these cases indications of the hysterical constitution; globules; perhaps occasional hysterical paroxysms; general irritability; enfeebled nutrition; pain easily excited on pressure at various parts of the body; irregular catamenia, or some uterine disturbance. The joints which are most frequently affected are the hip and knee. The patient keeps the painful joint quite at rest, being fearful of the least disturbance. When the joint is moved, she will call out with much more expression of pain than if there were actual ulceration of the cartilages. "There is always exceeding tenderness," Sir Benjamin Brodie remarks, "connected with which, however, we may observe the remarkable circumstance, that gently touching or pinching the integuments in such a way as that the pressure cannot affect the deep-seated parts, will often be productive of much more pain than the handling of the limb in a more rude and careless way." As, however, in most hysterical affections, if you can succeed in engaging your patient's attention about some other object, and thus directing her thoughts from her own sufferings, you will find that the joint can be moved with comparatively little or with no pain. I need not, however, dwell upon this subject, for you will find it admirably discussed in Sir Benjamin Brodie's "Treatise on the Joints," and in a very interesting and practical little volume on "Local Nervous Affections," which I strongly recommend you to study.

Irritable Breast.—Another very serious form of painful hysterical affection is the irritable breast. It is not generally attended with swelling or enlargement. The irritability is excessive, and the patient shrinks quite as much from superficial as from deep-seated pressure, and even before she has been actually touched at all. These characters, along with the evidence of hysterical constitution, are sufficient to enable the attentive practitioner to distinguish the real nature of the affection.

Aphonia.—I have alluded to various forms of hysterical paralysis; you may have numbness in the course of particular nerves, or paralysis of motion, in some cases putting on the features of hæmiphlegia—in others of paraphlegia.—Hysterical aphonia must be regarded as of the same kind, the palsy or weakness affecting the muscles of the larynx. The patient is unable to speak, except in a whisper, and even then not without effort. It often begins and ends suddenly. Sometimes it remains after a severe hysterical paroxysm has passed away. This is a form of local hysteria of very common occurrence, and not likely to be mistaken for any laryngeal disease, for respiration remains quite unimpaired.

Paralysis of the Bladder.—Hysterical paralysis of the bladder is also common, and much mischief may arise from neglect of constitutional treatment, and too close attention to the local affection. Sir Benjamin Brodie lays down the rule, that in these cases the catheter should not be had recourse to; and the only exceptions to it are in those extreme cases in which actual paralysis has taken place, and the bladder is likely to become diseased, if not artificially relieved.—A similar want of power over the rectum may occur in hysterical women. I have known women complain that they were unable to expel the contents of the rectum, although they were conscious of fæces having passed into it. With respect to many of these cases of hysterical paralysis, there is much truth in Sir B. Brodie's remark, "that it is not that the muscles are incapable of obeying the act of volition, but that the function of volition is suspended."

Spasmodic Affections.—Among the various forms of local hysteria we may class some singular spasmodic affections which often prove exceedingly troublesome; for example—

Laryngeal Affection.—In the woman Collier, whose case I have had occasion to refer to as an instance of paraphlegia, we had an example of a spasmodic affection of the muscles of the larynx, very much resembling the spasmodic croup, or laryngismus stridulus, which occurs in children. This attack was always preceded by depression of spirits and hysterical crying; the breathing became difficult, and both inspiration and expiration were attended with a stridulous noise; there was also a loud barking cough, which could be heard at a considerable distance. The attack passed off as the temporary excitement disappeared.

Hysterical Sobbing.—One of the most singular cases I ever saw was that of a girl named Howe, ætat. 19, who was admitted in consequence of a peculiar spasmodic affection of the diaphragm, of a most severe kind, and which, while it lasted, was most troublesome and painful. This girl has been a long time in the hospital. At her admission, on the 28th of March, she stated that for the last three months she had been very subject to leucorrhœa. In other respects she was in good health. Her face has the aspect of hysteria; the full upper lip is very well marked. Four days before her admission, in taking down a bedstead, she fell and struck the right side of her abdomen. She suffered so much pain at the moment that she was obliged to rest for ten minutes; she then resumed her work and thought no more of the accident. In half an hour she was seized with a catching of her breath, and with pain in the right side of the abdomen. This continued for two or three hours, so as to interrupt her work, and then went off. Her bowels were open at the time, but she is of costive habit.—In the evening the catching of her breath and the pain returned; it now continued some time, so that she scarcely lay down during the night. Next morning there was great epigastric tenderness, and she was unable to bear the pressure of her stays. The catching of the breath and pain in the side continued to recur in fits till the morning of the 26th, when they discontinued, but returned in the evening, and have continued at intervals ever since. At our first visit

we found her affected with this catching of the breath. It exactly resembled a violent fit of sobbing, unattended with flow of tears. There is a jerking movement of the neck from side to side with each sob, but the limbs are motionless. Any excitement increases the sobbing. It was much increased by our visit, and subsided after we left. On the 29th, whenever she was visited by myself or by the physician's assistant, the sobbing was brought on. The pressure of the stethoscope in exploring the chest was sufficient to bring it on. The upper extremities are now thrown into jerking movements, resembling those of chorea, shortly after the sobbing begins. The slightest touch on the epigastrium or tickling the soles of the feet brings on the paroxysm, even when her attention has been directed to some other object.

Her treatment consisted in free purging for the first few days, lest there should be any lodgment in the intestinal canal, and subsequently tonics. On the 31st her attacks ceased, and as she remained quite free up to the 5th of April, and her health was much improved, she was discharged. She was, however, readmitted on the 10th, with a recurrence of the paroxysms, without any apparent cause. They are accompanied with jerking movements of the upper limbs and tremblings of the lower ones, which give her an unsteady gait in walking. Pressure excites or increases the sobbing, particularly when applied on the right side; and if the pressure be continued, the sobbing becomes excessively violent, and the whole body is thrown into convulsive movements. The fits last for three or four hours, during which time the nurse is obliged to walk with her up and down the wards or passages; for she cannot remain still, during the whole time she is affected with jerking, chorea-like movements. It is extraordinary what a slight pressure will excite the sobbing. If she accidentally press the epigastrium herself it will come on; the weight of the bedclothes, the least pressure or even touch with the top of the finger, or even the near approach of the finger to the epigastrium, will excite it. She had followed a tonic treatment for a considerable time without any benefit to these paroxysms. I determined now to try a succession of blisters to the epigastrium. The first excited a very severe paroxysm; however, by perseverance in the use of them, she has not only become able to bear them, but the paroxysms have considerably diminished in frequency and severity, so that now she can bear a good deal of pressure without inducing the sobbing.

Sir B. Brodie has recorded a case very similar to this. A young married lady, who was liable to ordinary attacks of hysteria, complained of a tender spot on the anterior part of the abdomen, a little below the ensiform cartilage. The slightest pressure of the finger on it caused excessive pain, and was followed by violent agitation of the whole person, bearing a nearer resemblance to the convulsive motions of chorea than to any thing else, and continuing for several minutes.

Hysterical Sneezing.—Women are sometimes attacked with violent fits of sneezing, coming on at particular periods and lasting for a considerable time. Of my own knowledge I am aware of but one instance of this, in a newly married lady, in whom the fits of sneezing used to come on early in the morning. There was, I had reason to believe in this case, great disappointment that the signs of pregnancy did not appear about the usual time; and it was curious that these attacks should have come on chiefly when the morning sickness would have shown itself in the early stage of pregnancy. Women who are expecting pregnancy become very familiar with the ordinary symptoms of it. Sir B. Brodie relates two cases of this kind, in which the fits of sneezing were severe, and do not appear to have yielded readily to treatment. In the case to which I allude no relief had been obtained when I last heard of the patient.

Lancet, July 15, 1843, *p.* 541.

19.—PROTO-IODIDE OF IRON, AND ITS EFFECTS IN PHTHISIS.

This substance, as prepared by Professor Dupasquier, of Lyons, has been now for some years employed with success in the Hôtel Dieu of that city, as a remedy in cases of phthisis pulmonalis. Dupasquier's preparation differs essentially from that previously in common use under the name of proto-iodide of

iron, which was in fact a compound of proto and dento-iodide of iron, with free iodine and peroxide of iron mechanically intermixed. It was solid and uncrystallizable. Dupasquier's salt, on the other hand, is reported to be a true proto-iodide, and though it is procurable in a solid form, it is in that case so deliquescent and apt to be decomposed by the atmosphere, that it is commonly kept in the form of a solution, in which condition it is unaltered by contact with the air. In this state it is a colourless, inodorous liquid. The solution for administration in practice, as used by M. Dupasquier, consists of one part of the proto-iodide to five of water or mucilage, of which the dose varies from ten to twenty drops. The first action of this substance, as noticed both in the healthy individual and in the subject of disease, is excitant, and is manifested particularly on the circulatory system. The pulse soon augments in frequency, and the heat of the surface is considerably increased. In some cases symptoms of gastric disturbance, and irritation of the rest of the mucous membrane, supervene; anorexia and thirst may be present; the throat and fauces may become slightly inflamed, and may even exhibit a papular eruption. Nausea, vomiting, and constipation sometimes ensue. But it is in comparatively few instances that, after ordinary doses, symptoms are perceived of such intensity, and in nearly all cases they soon disappear. In any case the diminution or discontinuance of the remedy seldom fails to cause their disappearance. In the lapse of a fortnight or three weeks a decided tonic effect is made manifest; the pulse diminishes in rapidity while it acquires vigour, the heat of the surface decreases, and the patient gains flesh and strength.

In cases in which the effect of the remedy has been tried on a healthy person, the system at this period takes on a tendency to plethora, which is sometimes accompanied by dyspnœa, congestion of the lungs, cephalalgia, and other cerebral disturbances, as well as occasionally eczema, lichen, or other cutaneous affections. But these symptoms rarely exhibit themselves in any intense degree in phthisical subjects, whose cough and expectoration, however, notably diminish at this stage. M. Boissiere, who carefully watched the administration of the proto iodide in twenty-seven cases at the Hotel Dieu, Lyons, says "at the end of about a month after the first administration of the proto-iodide the expectoration has often decreased to a half, a quarter, or even an eighth of what it had been previously. I have remarked, in six cases, the cough and expectoration to cease entirely; in four of these the cessation occurred in about forty days, in the two others as early as the fifteenth day. I recognised marked beneficial effects of the proto-iodide in five out of six cases in which tubercles had previously existed in the lungs. In two of these I have noticed the complete cessation of the *bruit d'expiration* and *souffle bronchique*, with a return of the respiration to its natural state and a decided alleviation of the other symptoms: in one case, at the end of two months, and in the other in a fortnight. The influence of the medicament on the functions of digestion and nutrition is very strongly manifested. In seven-eighths of the patients to whom it was administered, there occurred within the lapse of from a week to fifty days, a restoration of the appetite, a cessation of the nausea previously produced by food, of the secretion of foul mucus about the mouth, &c. The weight at the epigastrium, the febrile access during digestion, and the marasmus gradually disappeared; the visage lost is pale, clayey aspect, and the muscles their feebleness and flaccidity." Many other interesting details on the subject are given in the "Gazette Medicale" of Dec. 24th ult., to which we refer our readers. Of the twenty-seven cases above cited, seven terminated in death before the proto-iodide had had time to exert much of its influence; but in all the rest considerable advantage is reported to have been derived from the remedy, and one patient was discharged without a remaining symptom of disease. M. Boissiere concludes that the proto-iodide of iron acts in the cure of phthisis at once as a tonic, an astringent, and a resolutive agent. As a tonic it restores the healthy performance of the functions of digestion, assimilation, and hæmatosis; its astringent effect is displayed in causing a cessation of expectoration and night sweats; and its resolutive power in promoting absorption of the tubercular matter deposited in the lungs. It is probable, however, that its effects on the lungs,

stomach, skin, &c., are but secondary, and that its primary action is exerted on the mesenteric glands, which are so constantly diseased in phthisis, iodine and its compounds having a peculiar elective action upon glandular structures. If this view be correct, other preparations containing iodine, besides the proto-iodide of iron, will be found to have a salutary influence over phthisis, and it is likely that in the course of future researches after a specific for this insidious disease, the utility of all these as remedies against it may become established.

Lancet, July 8, 1843, *p.* 517.

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m.—GALLIC ACID, AS A REMEDY IN CASES OF HÆMORRHAGE.—By ROBERT STEVENSON, M. D., Ed.

[Dr. Stevenson publishes several cases to show the value of this remedy in uterine hæmorrhage and hæmaturia. In the first case, that of Jane Johnson, aged 32, the menstrual secretion had been checked, and continued very irregular for some time, generally appearing profusely when it did come on. At last it became so profuse as completely to exhaust the patient, and Dr. Stevenson was called in. "The patient was lying on her back in a very exhausted condition, with pale anxious countenance, eyes sunk, pupils dilated, pulse quick, feeble, and intermittent. The blood she had lost was at least a pound." The blood continued to flow more or less during the next day, greatly exhausting the patient, when a glass of port wine was given every four hours, and eight grains of gallic acid, with a little cinnamon, every third hour. Next day the patient was better, having only parted with three ounces of blood during the last sixteen hours. She had then taken seven powders, and continued them regularly for another day, when the hæmorrhage had entirely ceased, and the patient rapidly recovered.

The second case was one of *hæmaturia* in a boy fourteen years of age, who had been passing blood with his urine for several months, supposed to have commenced from a blow which he received on the lower abdomen from one of his schoolfellows. After ineffectual attempts to arrest the discharge of blood, three grains of gallic acid, with four grains of aromatic powder, were given every three hours for four days, when the discharge subsided and did not return. Dr. Stevenson relates two other cases in which the same kind of treatment was successfully resorted to.]

Ed. Med. and Surg. Jour. July, 1843, *p.* 103, 110.

[It is possible that the efficacy of the following preparation of rhatany may be owing to the same principle.]

New Astringent preparation. By digesting rhatany in sulphuric ether a brown extract is obtainable, perfectly soluble in distilled water, and when placed on the tongue giving a sensation of great astringency, followed by heat and dryness. This extract, invented by a M. Tissier, of Lyons, has been employed with success in that city in passive hæmorrhages, particularly those consequent on non-contraction of the uterus, as after prolonged labours and miscarriages. It has also been used with advantage for leucorrhœa, blennorrhœa, gleet, &c. The dose in which it has hitherto been employed is a tablespoonful of a mixture composed of from five to ten grains of the extract in six ounces of some appropriate vehicle; in leucorrhœa, topical injections are recommended of from two to five grains of extract in a pint of barley-water. The presence of this preparation in the stomach gives rise, generally, to a sensation of heat in the epigastrium, though this rarely proceeds so far as to become painful; great thirst, and a pulse often as full as in gastritis, also prevail. These symptoms are, however transient, and readily quelled by lemonade or other mild drinks. Should the injection irritate the urethra too greatly, it is only necessary to suspend its use for a short time.

Lancet, July 8, 1843, *p.* 513.

Gallic Acid in Menorrhagia. In a paper read before the Medico-Chirurgical Society of Edinburgh, Professor Simpson stated that for the last year he had employed gallic acid in some cases of menorrhagia, with the most successful results. Like all the other remedies directed against that disease, it had also occasionally failed in his hands. Some of the cases which had completely yielded

under its use were of an old standing, and aggravated description. He gave it during the intervals, as well as during the discharge, in doses of from ten to twenty grains per day made into pills. It had this advantage over most other anti-hæmorrhagic medicines, that it had no constipating effect upon the bowels. He was first induced to use it from finding a case of very obstinate menorrhagia get well under the use of Ruspini's styptic, after many other remedies had utterly failed, and from it being alleged that gallic acid was the active ingredient in that styptic. He suggested whether the anti-hæmorrhagic properties of some of our common astringent drugs may not depend upon the gallic acid as much or more than upon the tannin which they contain, or upon the tannin becoming changed into gallic acid within the body.

Lon. and Edin. Jour. of Med. Sci., July, 1843, *p.* 661.

[An interesting article on tannin as a means of arresting uterine hæmorrhage will be found in Retrospect, part 7, art. 94. When the administration of this medicine by the mouth is impracticable or very objectionable, it may be used as an injection into the bowel. M. Duman, in a violent case of flooding, infused four scruples of tannin for ten minutes in a pint of boiling water; and when cool enough this was injected slowly into the bowels. It was attended with success.]

21.—CLINICAL REMARKS ON CASES AT ST. GEORGE'S HOSPITAL.—By Dr. Seymour.

Pain in the head.—An old woman in one of our wards up stairs upon admission complained of very severe pain in her head. She had a very hard pulse, but as her age must be about sixty-five, I suppose that the peculiar pulse depends upon a certain amount of hardening in the artery itself, and therefore could not be reduced by bleeding, even if carried to an amount more than sufficient to reduce inflammatory hardness of the pulse in a younger person. You must never bleed an old person merely because the pulse is hard and full. It is this very state of the cerebral arteries, hardened by ossification, or softened by ætheromatous deposits in their coats, which causes them to give way, and apoplexy and subsequent palsy to ensue. But this peculiar state of the arteries may produce all the effects of apoplexy, hemiphlegia, and paraphleglia, without there being evident a rupture of any vessel. This may occur by transudation through the porous structure of the arterial coats, or by serous effusion. If this latter should press downward, from the region of the cerebral hemispheres into the theca vertebralis, paraphlegia would result; but this serous effusion may not proceed beyond the region of the cerebrum, and you will then have what is termed "serous apoplexy." You may diagnosticate this form of apoplexy when a person has several "fits," as they are termed—fits, over and over again—as often recovering from them. But the same state of artery may be present without producing such severe symptoms as these, and there may be severe continual and violent pains in the head, such as this patient is troubled with. You will find, by referring to my case-book, that I have treated this patient by moderate bleedings. You will hear in the lectures on the practice of physic delivered in this place that bleeding, and sometimes excessive bleeding, is very valuable in many affections of the head; but that doctrine, however sound in many cases, would be very prejudicial if followed out to the full extent in such cases as the present. Remember, therefore, that bleeding in a moderate degree prevents effusion, but that when extreme it has a decided tendency to promote it.

You are aware that during the progress of life, from maturity to old age, certain alterations of structure occur in the arterial trunks, which may extend to the capiliary terminations, and produce that softening of the brain which is so often found in old people, and which may be considered as the cause of the idiotcy, paralysis agitans, loss of memory, and other symptoms which so frequently show themselves towards the close of life. The peculiar softening of the cerebral structure is quite different from that which produces and depends upon inflammation of the brain.

Another case is that of Bennett, who, upon admission, stated that he had suddenly become quite deaf, and ever since had had pain in the head. The pulse

was quiet, and the symptoms threw but little light upon the case. Leeches and blisters were applied, but without relief. Quinine and a generous diet were then prescribed, and under these the patient perfectly recovered, being the very opposite means to those ordinarily prescribed, leading you to reflect that every case should be studied singly, with reference to its own peculiar symptoms, as well as with reference to cases of a similar type and character. In this case tonics and a full diet gave that relief which blood-letting and purgation would afford in cases of an opposite kind. Probably, instead of there being too much blood in this case, there was really not enough, and where the quantity of blood in the system is much diminished, whether from hæmorrhage or diarrhœa, this sort of pain in the head may be produced. In such cases the patient will complain (as this patient did) that the pain is extraordinarily severe, with various noises and flashes of light before the eyes. All these symptoms serve to diagnosticate the case, as well as to distinguish it from those cases (as the one to which I just now drew your attention) where there was an alteration in the structure of the contents of the cranium.

Hemiphlegia.—A patient named Marshall, recently come from India, suffering greatly from distress and want, is therefore in a state of great debility, and has I hear many symptoms of tubercular phthisis. The hemiphlegic symptoms came on about a week since, and may have been caused by a slow and almost imperceptible extravasation into the right corpus striatum. There has not been, so far as I can learn, any positive fit, but if she do not previously sink under the pulmonary mischief with which she is threatened, a further effusion may occur. She had leeches applied to the right temple, and the bowels were kept freely open, under which treatment she has slightly rallied, and is able to move the leg slightly. In these cases the legs recover their power of motion before the arms.

Paraphlegia.—This may be partial or entire, and sensation and motion may be separately lost. In Woolley and Cuff this peculiar form of palsy exists. In general, in these cases, the severe pain of the head is referred to the base of the brain, but Woolley refers all the pain to his forehead, and he is able (which does not always happen) to retain his urine and fæces. He has only lost motion. Sensation remains normal, which would lead me to conclude that the spinal marrow was diseased. Patients very often recover from attacks of paraphlegia, and, therefore, this state of the spinal marrow, of course, does not exist in every case. Dr. Baillie has suggested that such cases may be the result of fluid effused within the cavity of the theca vertebralis, which may gravitate to the lower portion of the spinal column, and cause pressure. Cuff's affection occurred about seven or eight months since, and was ushered in by epistaxis, but it is more than probable that there was some headache or pain before that time. He was bled very largely before he came into the Hospital, and, as I have just told you, this large bleeding may lead to effusion. He also states that he sees double, and, as a general rule, in all cases of head affection, where the patient sees double, or only half of an object at a time, it is to be considered as a very bad symptom, and death may be expected from effusion into the substance of the brain, sooner or later. You may meet with many cases in which this abnormal state of the vision is temporary, and only indicative of some functional derangement, but where cerebral mischief impends, it is always a suspicious symptom and should be closely watched. As I have treated both these cases nearly in a similar manner, I shall condense what I have to say on the subject. Woolley was cupped at the back of the neck, and blisters were afterwards applied, the blistered surface being dressed with the strong mercurial ointment. This is a very painful but a very effectual way of employing counter-irritation. He was young, and I, therefore, ordered him to be slightly bled, in order to obviate the chance of inflammatory action supervening. I did not have Cuff bled, as he had lost so much blood before he came. With reference to Woolley's case, I may also state another reason why I do not consider it to arise from organic disease within the spinal sheath, namely, that in most cases which really do arise from this latter cause there is generally at one time or other, some palsy of the intercostal muscles, or the diaphragm. Now, there have been no

such symptoms in this case. I put Woolley on thirty minims of tincture of cantharides, at first twice daily, but for the last three days he has taken this dose three times a-day. This has been followed by a very perceptible increase in the quantity of urine. I could mention to you many cases in my practice in which I have cured this affection in a most wonderful and extraordinary manner by this medicine. But its good effect is only produced when a copious diuresis succeeds to its exhibition. With so many examples of the beneficial effects of this remedy given in this manner I am sometimes almost inclined to consider that palsy depends upon effusion. You may, perhaps, be astonished that the cantharides in these cases does not produce violent strangury; however, I have never known this accident to occur. Should such a case as this happen to you in practice, be careful that your patient has not a stricture, or other affection of the urethra, for then you must not give this medicine, or if you have given it, and you find afterwards that the patient has stricture, suspend its exhibition for a few days. It must not be administered to women, from its peculiar effect upon the uterine system and its appendages. But if you have given it, and, in spite of your efforts to prevent it, strangury does arise, what should you do? In some books on this subject camphor is recommended in such cases; but camphor is very slow in its operation. I do not, therefore, recommend it, but I do advise you to give twenty or thirty drops of tincture of opium, in a starch injection, and then this unpleasant strangury will almost immediately disappear.

Lancet, May 20, 1843, *p.* 253.

22.—TREATMENT OF CHOREA.—By Dr. Todd, F. R. S., Phys. to King's Col. Hos.

The treatment of chorea which is now most generally and successfully adopted, has not been based upon any theory of the disease, but is founded upon the lessons of experience; and, indeed, the success of that treatment may be adduced as an argument in favour of the constitutional nature of the disease. The object of it is to improve and give tone to the constitution by promoting a healthy and vigorous nutrition, without any interference, mechanically or otherwise, with the ostensible phenomena of the disease. In truth, the movements of chorea are not to be restrained If you attempt to hold down a limb affected with these involuntary jerking movements, they become tenfold more violent, and there is danger of converting a partial into a general chorea. When we tried to restrain the girl Sleet, who was suffering from general chorea, she became excited to a most fearful extent, and it was evident that a perseverance in the attempt would have been productive of mischief. You must, therefore, avoid everything like restraint, provide against the possibility of your patient being injured in the violence of the movements, but give him as free a space to move in as you can.

In the treatment of the ordinary and more chronic form of chorea, the following points demand your attention: You should first provide as good air for your patient as you can. The removal of the children of the poor from the dark rooms which they inhabit into the light atmosphere of a well-ventilated Hospital is generally an important step in the cure. The next point to be attended to is cleanliness, with friction of the skin. The means employed for these purposes must assist materially the functions of the skin, and promote both cutaneous secretion and cutaneous respiration. To secure good clothing, and to keep the surface warm, are also important objects to be gained if children are to be restored to a healthy state of nutrition; and lastly, you must give your patient a wholesome and nutritious diet, with a proper allowance of animal food, and porter or wine in moderate quantities when there is much debility or when the movements are constant and exhausting. These means will be often successful even if employed alone, and they must be continued after the movements have ceased, in order to guard as much as possible against relapse.

The use of purgatives should be had recourse to very early, and with a twofold object, first, to carry off any noxious secretions that may have been formed in the intestinal canal, and to assist in improving the character of the secretions; and, secondly, with a view to the dislodgment of intestinal worms, which may *exist in the* bowels, and may keep up a continued irritation. In some cases

purgatives have been the only medicines employed, and they have been successful, either by removing some source of irritation, or by improving the general health. The medicines of this class which I generally employ are calomel and jalap in combination, or castor-oil and turpentine; and when there is good reason to suspect the presence of worms, I continue the use of them, but especially of turpentine, for some time. You must take care not to purge too actively, for the effect of such practice would be to weaken your patient, and by the irritation of the bowels to prolong the convulsive action. You may leave off the purgatives, or have recourse to them only occasionally, when you find the secretions of the bowels assume a healthy appearance, and when you feel satisfied that no worms infest the intestinal canal. You must now call in the aid of tonic remedies, and you cannot do so at a better time than when the secretions have been improved by the use of purgatives, and the pores of the skin opened by ablution and friction. The best tonic we can have recourse to is the tepid or cold shower-bath, especially the latter. The tonic influence of cold is of great power in this disease, as it is in all instances of enfeebled states of the nervous system. In employing this remedy, however, you must take care not to alarm your patient; I have known chorea to be brought on by the sudden shock of the shower-bath. To avoid the shock it may be advisable to begin by using the hand shower-bath, which we found decidedly useful in both Lowe's and Sleet's cases; or you should at first employ but a small quantity of water, which can be afterwards gradually increased.

Of medicinal tonics the best are the preparations of the metals and sulphate of quinine, which latter may be advantageously combined with some one of the metallic salts. The preparations of iron are the most generally applicable to this disease. You may give the sulphate of iron, or the muriated tincture, or the mistura ferri, or the carbonate of iron, or the saccharated carbonate of the Edinburgh Pharmacopœia. The sulphate is that which I have most frequently employed, and you know that I do not hesitate to use it in very large doses after I have satisfied myself that the patient will bear it.

℞ The sulphate of zinc is also a very valuable tonic, often very serviceable in this complaint. You begin it in the quantity of a grain three times a-day, and you may gradually increase it to several grains for each dose. I have not used either lead, copper, or mercury, in this disease, nor is there anything in their medicinal properties which would suggest the propriety of having recourse to them. Mercury may be used as an alterative, or to act on the secretions of the liver, but it cannot be useful for any other purpose; and, moreover, it is liable to this objection, that if salivation should come on in an enfeebled state of constitution, the consequences may be very serious. Arsenic has been a good deal used in this disease, and with unquestionable benefit. But if I can cure my patients with iron or zinc, I would rather not employ arsenic. This metal, like mercury, is capable, after a longer or shorter time, of producing a cachectic state peculiar to itself, against which you have no means of providing. I therefore advise you to reserve the use of arsenic to the last, in your list of expedients for the cure of chorea. There is no doubt that a very large proportion of the cases are curable without the necessity of having recourse to this poison.

It seems almost superfluous, after what has been said, to warn you against the employment of antiphlogistic measures in this disease. Bleeding, whether general or local, can do no good, and if the movements have ceased under the use of it, it must have been in consequence of great exhaustion and debility induced by it. Dr. Willan very justly condemns the ancient practice of bleeding in this disease, and he makes the following remark, which deserves to be quoted as a caution to those who are apt to draw hasty conclusions from solitary or few cases. He says, "A case, inserted by myself in the 'London Med. Journ.,' vol. vii., may seem to contradict the above assertion (against bleeding); but it is just and proper now to say that I met with the fate of other hasty case-writers. Before the volume recording it was circulated, my patient had a severe relapse, and was at length cured by a very different plan." (Reports on the Diseases of London.)

Opiates, and the whole class of sedatives, appear to me to possess no value in

the treatment of chorea. You saw of how little avail even pretty large doses of morphia were in the case of Sleet, when a little sleep would have been of decided service. I have a theoretical objection to the use of opiates in this disease. They affect the brain, and even when they produce sleep, they are apt to leave after them a disturbed state of the organ. Now I should fear that the administration of opium in chorea would add fuel to the fire which already exists in at least a portion of the encephalon; and certainly I have never seen real good result from its use. *Lancet, July* 1, 1843, *p.* 464.

23.—CHRONIC HYDROCEPHALUS TREATED WITH IPECACUANHA, IN FORM OF LINIMENT.

[In Dr. Hannay's Dispensary cases is the following one of chronic hydrocephalus, which is said to be congenital:]—

The infant was in its eighth month, and the head had acquired a size much beyond natural. It presented an unnatural expression, looked languid and inactive; squinting, vomiting, and costive bowels. It had been several times attacked with convulsions, after which it lay comatose for several hours. The fontanels were large and full. I directed diuretics (nit. pot. and pulv. ipecac.), as I have a notion that to increase the urinary discharge is on many accounts very advantageous in this disease. But it is to the effect of a liniment composed of powdered ipecacuanha root, from which decided benefit was derived in this case, that I request space for a short memoir of my trials of this remedy, first suggested to me by my accomplished colleague, Dr. Easton, Professor of Materia Medica in Anderson's University. To that gentleman I sent the following results of my experience of this new counter-irritant, and beg to offer it as the therapeutic parts of my gleanings. The formula I adopt is as follows:

℞. Ipecac. Pulv.; Olei Oleæ Europ. aa, ʒij.; Adipis Suill. ℥ss.; M. opt. fiat linimentum fricando admovendum.

The part we wish to irritate is to be rubbed freely with this liniment for fifteen or twenty minutes three or four times daily, and enveloped in flannels. This produces, in about thirty-six hours, or sometimes sooner, very numerous small papulæ and vesicles, seated on a deep-red base of irregular extent. They become flattened in a short period, and assume the pustular character. Many of them run together; are confluent. The part feels hot to the hand of another, and a tingling sensation, never amounting to pain, is experienced by the patient. The eruption endures very vividly for a few (three) days, during which the pustules become covered with a scab-like scale, and fall off, leaving no mark. They never ulcerate, as do the pustules from the tartrate of antimony. I regard the ipecacuanha as a very valuable addition to our counter-irritants. It is not over severe, as the tartrate is occasionally found to prove. Yet, with all its moderation, it is very efficient, and extremely manageable. In feeble, young, and very irritable persons, it will, I feel assured, prove a very suitable counter-irritant. I specially beg attention to the use of it in the head diseases of a chronic kind in infants and young children. Many of these cases follow the suppression of eruptions and scabbed diseases of the scalp. Now, the ipecauanha liniment produces a scabbed state of the scalp, as nearly resembling the affections in question as can be imagined, and maintaining a counter-irritation on the surface which I have proved, I think, to be a very valuable agent of this nature.

Ed. Med. and Surg. J., Oct. 1843, *p.* 331.

24.—REMARKS ON INDIAN HEMP.

[As the use of this medicine is becoming more common, we would refer the practitioner to some cautionary remarks of Dr. Farre, which are as the following:—]

The *apocynum cannabinum* is sold in London under the name of "Indian hemp." It is a native of Canada and Virginia, and has no resemblance to the true hemp, except in possessing a tough fibrous bark, which is applicable to the same purposes in the arts. In the U. S. Pharmacopœia it is termed "Indian hemp." The officinal part is the root, which is powerfully emetic and cathartic. But the part which I have seen supplied as Indian hemp consists of the

leaves and the follicles filled with numerous silky seeds. As the follicles are two or three inches long, and the silky seeds are abundant, they can hardly have escaped the notice of those who may have inadvertently used this article under the idea that it was the hemp from India. The true Indian hemp, or "gunjat," is our common hemp; and consists of the flowering branches, two or three feet long, nearly destitute of leaves, and having the flowers and fruit (hemp-seed) agglutinated together by the resinous secretion. As the most powerful antispasmodic properties have been attributed to this plant, it is important that no false conclusions should be drawn in consequence of the employment of a wrong article. I am not aware that any real Indian hemp is at present in this country except the supply recently brought by Dr. O'Shaughnessy, and left with Mr. Squire, of Oxford-street. We have at present little experience of the medicinal properties of English hemp. A hotter climate, a more intense light, and a different soil, may give to it properties which are scarcely developed in this country, but as the resinous secretion is not wanting here, it appears deserving of a careful trial.—*Med. Gaz. May* 5, 1843, *p.* 209.

25.—INSPISSATED BILE.

[We have several times alluded to the exhibition of inspissated ox-gall as a remedy for constipation, &c. We find that the inspissated bile of the swine has been used in America since 1828, for this and other purposes. In a communication on fever by Dr. Mettauer, we have the following:—]

Another modification of the ipecacuanha pill employed by us, was the combination of two or three grains of the inspissated bile* of the swine, with one grain of ipecac. and two of the carbonate of potass; this compound was most valuable in this stage; and it seemed to act with decided effect, as a supporting and secerning remedy, upon the mucous membrane of the stomach and intestines, and as a diaphoretic at the same time. It was especially valuable in those cases attended with a denuded and raw tongue; this organ always becoming more healthy after its administration.—*Amer. Jour. of Med. Science, July*, 1843, *p.* 52.

26.—CREAM OF TARAXACUM.

[We quite agree with Dr. Collier when he says that "remedies are enhanced in value when they are found to combine simplicity with efficacy; and hundreds of pounds are paid for ext. taraxaci in public and private practice, and nine-tenths of it are all but inert, sweet, and decomposed in the process of preparation." He gives his own method of using dandelion for the cure of hepatic and dropsical disease, which we are disposed to think very favourably of.]

Cut the fresh roots of dandelion, freed from any adherent earthy matter (previously washed and slightly scraped) into transverse slices. Sprinkle any quantity of these, while moist, slightly with spirit of juniper, and express them in a tincture-press. The cream thus expressed will keep any reasonable time for the purposes of the practitioner in the hottest weather. The dose, a table spoonful, or more, twice or thrice a-day, will probably produce two or more diurnal biliary evacuations. It may be diluted, and put up in the form of draughts, with any of the diuretic waters or infusions, or with a solution of cream of tartar. The great objection to its use will be that it costs nothing, and may be made by every one, without pharmaceutical mystery or expense.
Lancet, Sept. 16, 1843, *p.* 876.

* This article we have used since 1828, and we think its employment as a therapeutic agent is original with us. We were induced to resort to it first in the low, depressing states of continued fever, with the design of acting especially on the gastro-intestinal mucous membrane, which we believed became disorganized in such cases in a great measure from the want of the biliary influences; and in these cases it always acted with decided benefit. It served to substitute the action of the bile. Simply heating the bile over a sand-bath until it becomes dry and pulverizable, was our mode of preparing it. It is a valuable agent in dyspepsia, and in many chronic affections attended with defective biliary secretion. In chlorosis, amenorrhœa, some forms of dysmenorrhœa, and constipation, we have also employed it with decided advantage.

27.—LIQUOR TARAXACI.

Earland recommends the following formula for this preparation, taken from the Annals of Chemistry: "Dandelion roots, perfectly clean, dried and sliced, ℥xij. Infuse for twenty-four hours in a sufficient quantity of distilled water to cover them. Press and set aside that the fecula may subside; decant and heat the clear liquor to 180 Fahr., filter the liquid whilst hot, and evaporate spontaneously until the product weighs 14 ounces. To this add 4 ounces of rectified spirit. If properly prepared, it resembles in colour pale sherry.—*Pharm. Journ., June* 1, 1843, *p.* 778.

28.—TREATMENT OF CROUP WITH SULPHATE OF COPPER.—By Dr. Schwabe.

This invaluable medicine in croup, first recommended by Serlo, has been used in more than fifty cases by the writer. He generally begins the treatment by applying from four to twelve leeches to the larynx, and then orders 1½, 2, 3, and occasionally even 4 grains of sulphate of copper, mixed with a few grains of sugar, to be taken every half hour or every hour, according to the urgency of the symptoms. Each dose is followed by vomiting, which, scanty after the first dose, is always copious after the second, and is continued so long as thick mucus or membranous concretions are apparent in the matters ejected. The patient then takes half a grain of the sulphate every hour, until several dark green motions have been discharged, to effect which from eight to twelve doses suffice.—*Casper's Wochenschrift, No.* 9, 1843.

Lond. and Edin. Mon. Jour. of Med. Science, Sept. 1843, *p.* 834.

29.—NEW PREPARATION OF QUININE.

Dr. Kingdon, of Exeter, having felt the utility in practice of quinine as a tonic, in cases in which a stimulus to the absorbents also was indicated, has recently succeeded in combining the qualities of these two classes of medicines in an iodide and biniodide of quinia. His iodide of quinine is formed by dissolving equal weights of the disulphate of quinine and iodide of potassium in boiling distilled water, and allowing the mixture to cool, when beautiful fasciculi of needle-shaped crystals are deposited, insoluble in cold water, but soluble in alcohol. The biniodide of quinine is prepared by mixing twice the weight of iodide of potassium with the disulphate of quinine in boiling distilled water, evaporating to one-third in a sand-bath, and allowing the residue to cool, when a resinous substance is deposited of a light straw colour, which, by exposure to the air, becomes darker and of a greenish hue, not crystallizable, sparingly soluble in cold water, soluble in boiling water, readily soluble in alcohol, and then not precipitated when mixed with water. This preparation he has given in several cases of scrofulous enlargement of the glands with very great benefit. In the case of a child, between three and four years of age, when the glands of the neck were in a state of suppuration, half a grain twice a day was given, and at the end of six weeks the swellings were entirely removed, and the general health much improved.—*Med. Times, July* 29, 1843, *p.* 288.

30.—STATE OF THE IRIS IN CEREBRAL LESION.

In the examination of cases of injury to the brain, it is extremely important for you to enter minutely into all those signs which indicate any injury to the brain. First, the mental condition; next, the state of the pupils—the iris is placed before that expanded surface of the optic nerve, the retina, as an intelligent curtain to guard it from injury. The vital contrivances by which it acts, and by which its action is directed, are so beautifully perfect that the extent of the opening of the curtain is indicative of the state of the nervous apparatus it is destined to protect, by preventing such an amount of light impinging upon it as would be liable to injure it. In disease of the globe of the eye, the dilated pupil indicates more or less pressure on the retina by some cause in the globe itself, such as a permanently turgid chorid, &c. But if with a healthy eye, but in connection with a blow on the head, we find a dilated pupil, then we have the sign of some pressure or injury to the nerve in its course

within the skull, or the ganglia in which it terminates. The dilated pupil, then, indicates very serious injury to the optic nerve, or the nervous centres with which it is connected, though it may happen, as in the case of very severe concussion, the injury is remediable. The contracted pupil, on the contrary, indicates an irritability of the nervous instruments, an undue excitement of their natural function—not an obliteration of it. You will sometimes see, in the case of injury of the brain, dilatation of one pupil and contraction of the other; where this is the case, you will find the most severe injury of the brain on the side opposite the dilated pupil. I have several facts to prove this assertion, which I shall relate on a future occasion.—*Med. Gaz., Mr. Solly's Clin. Lec.—Prov. Med. J., May* 27, 1843, *p.* 180.

31.—FERRUGINOUS FOOD.

Under this name, M. Colmel, a Parisian pharmaceutist, has introduced a new mode of administering iron. His method consists in adding to the iron the usual ingredients for forming chocolate paste, and thus produces a ferruginous compound, by which the taste of the metal is concealed.—*Gazette des Hopitaux.—Prov. Med. Jour. Aug.* 12, 1843, *p.* 405.

32.—TREATMENT OF VOLVULUS.

Mr. Pilcher has recorded a case of volvulus occurring in a child, in which all the remedies commonly employed for the removal of the disease had been unavailingly employed, when he was induced by the recollection of a former case to order thin gruel to be injected by the rectum until the lower intestines had become completely distended, regurgitation being prevented by pressure around the anus. The effect was almost immediate, the obstruction giving way and the patient completely recovering.—*Prov. Med. Jour. May* 6, 1843, *p.* 122.

33.—VALUE OF ANTIMONY IN MANIA.

Dr. Sutherland states that the employment of antimony in the treatment of mania is of the highest value. A fourth of a grain of the potassio-tartrate may be given every fourth hour, or at the commencement of the paroxysms of furor. It is powerful as a means of controlling the action of the heart and arteries. In many cases in which it has been given, it has acted like a charm in instantly subduing the excitement and violence of the patient; and in some cases an alteration in the symptoms for the better has been traced from the commencement of its administration. *Prov. Med. Jour., July* 22, 1843, *p.* 342.

34.—DARTRES OF THE PERINEUM.

Dr. Barosch, of Lemberg, was consulted by a young man, about twenty-eight years of age, for a dartrous eruption affecting the perineum and scrotum, with which he had been afflicted from his sixteenth year, and the irritation from which was such as to cause him to be continually applying his hands there, so that he was obliged to avoid society. He had consulted the most famous physicians in Hungary, but the only thing that seemed at all to relieve him was the cold water hip-bath. When he consulted Dr. Barosch, he was exhausted by suffering, insomnia, loss of appetite, and despair; the skin was dry; the entire perineum, scrotum, and internal surface of the thigh, were covered with deep-brown, hard crusts, surrounded by bleeding fissures, caused by the nails of the patient. Below these crusts the skin was hard and thickened. The fall of the crusts alternated with an acrid discharge. Kœchlin's liquor having failed, Dr. Barosch prescribed the external application of iodine as follows:—Fifteen grains of iodine and two scruples of hydriodate of potass dissolved in five ounces of distilled water and one ounce of spirits of wine; make a lotion. The topical application of this solution continued for several hours, caused at first a burning sensation, which was, however, very tolerable, and was soon followed by a relief such as the patient had not experienced for two years. The use of this lotion was continued for three weeks, the patient taking baths frequently during that period, at the end of which time the cure was complete.—*Oesterr. Medicin. Wochen.* *Provincial Medical Journal, April* 29, 1843, *p.* 99.

35.—COMPRESSION IN CHRONIC HYDROCEPHALUS.

M. Hirsch has published another example of the efficacy of compression in cases of chronic hydrocephalus. A child, eleven months old, laboured under this affliction; the head was large, tontanelles open, and all the sutures widely separated. The lower extremities were paralysed. On the 11th May a mixture, containing infusion of bark, digitalis, and sweet spirits of nitre, was administered, and mercurial frictions were made on the head. The paralysis gradually disappeared under the influence of this treatment. On the 28th the head was enveloped with strips of sticking plaster, which compressed it on all sides; the plaster was renewed on the 28th of June and 4th of September, and in February it was found that the fontanelles and sutures were completely ossified. The child had begun to walk and speak.—*Casper's Wochen.*

Provincial Medical Journal, April 29, 1843, *p.* 101.

36.—PILULA FERRI COMP.

[Several methods of preparing this pill have been recommended to preserve the carbonate of iron undecomposed, and to insure the uniform consistence of the mass. This can be made according to the directions of the Pharmacopœia by an attention to the following particulars:—]

Dissolve the sulphate of iron, finely powdered, in treacle, with a moderate heat, and add the carbonate of soda, stirring constantly until the effervescence has entirely ceased and the mixture has become cool; then add the myrrh gradually, and incorporate the mass. As a little evaporation takes place at the commencement of the process, a small excess of treacle is requisite to supply the deficiency. This mass retains its colour and consistence remarkably well.

Pharm. Journ., July 1, 1843, *p.* 36.

37.—MISTURA FERRI COMP.

Mr. Strutton, in the "Chemical Gazette," gives the following formula for the mistura ferri composita, by which its decomposition may be prevented:—

℞. Myrrh, two drachms; carbonate of potash, one drachm; rose water, fifteen and a half ounces; spirits of nutmeg, an ounce; sugar, two ounces. Mix according to the Pharmacopœia and dissolve.

Sulphate of iron, two and a half scruples, dissolved in two and a half ounces of rose water.

When required, add to seven drachms of the first mixture, one drachm of the latter, which saves the trouble of preparing it for every prescription, and is equal to the mixture being fresh made every time it is wanted.

Prov. Med. Journal, June 10, 1843, *p.* 221.

38.—TREATMENT OF DIABETES.

[An interesting case of this affection is published by Mr. Hodges, of Downpatrick, in which the nitrogenizing plan of treatment so ably recommended by Dr. Barlow, of Guy's Hospital, was attended with excellent results.—The treatment was commenced by giving five grains of the sesquicarbonate of ammonia every three hours, with coffee and bacon to breakfast, animal food and cruciferous vegetables for dinner. The skin was stimulated by friction, and the patient well clothed with warm flannel. In four days the urine was diminished in quantity from twenty-four to fourteen pints daily. The ammonia was then increased to five grains every two hours, and very soon the quantity of urine voided was only eight pints daily; in thirteen days more only five pints, and in twenty-one days the drink taken in the twenty-four hours was two pints, and the urine four pints.

Medical Gazette, July 7, 1843, *p.* 585.

39.—ANODYNE POWER OF THE CYNARA, OR ARTICHOKE.—BY DR. BADELEY, Chelmsford.

[This gentleman has frequently prescribed this medicine with decided benefit in rheumatic and neuralgic affections, and even in some obstinate cases of sciatica which had resisted the more ordinary remedies. He says:]

I generally prescribe a combination of a drachm of its tincture with five grains of the extract, in a draught, three times a-day, varying the vehicle, and adding other remedies, according to the circumstances of the case; sometimes in mist. guaiaci, one ounce and a half, or mist. camphoræ; sometimes in combination with colchicum, and with or without a few drops of Battley's liquor opii sedativus, or a solution of morphia. It possesses the advantage of having no deleterious or prejudicial effects on the system, and may be increased in its proportions or duration, if the case require it. Several cases of gout have yielded so rapidly to its exhibition as to induce a belief in its specific power in the minds of those who have suffered from that complaint. It is not a new medicine; it is mentioned in Lewis's "Materia Medica," in Parr's and in Hooper's "Medical Dictionary," and in other works, but is merely lauded there for its diuretic property, and said to derive its name "cinara," from κινέω (moveo), "quia movet urinam," an etymology as vague as it is unsatisfactory; others spell it "cynara," and derive it from κύων (canis), from the dog-toothed shape of its leaf. But this is of minor importance. Suffice it to say that it is universally known under the title of "artichoke." It is necessary that it be prepared quite fresh from the leaves, its efficacy apparently depending mainly on its freshness. *Lancet, July* 15, 1843, *p.* 556.

40.—INCONTINENCE OF URINE SUCCESSFULLY TREATED BY NITRATE OF POTASH.

[Dr. Young, of Chester, Delaware County, has found that this medicine, given in ten-grain doses every three hours, has had a very excellent effect in checking this troublesome affection. In several cases where tinct. lyttæ and other means had failed this medicine was given with complete success. He supposes that its good results may be owing to its increasing the irritating properties of the urine, thus making it more stimulating to the bladder or its sphincter. If so, he also thinks that other preparations of potash, soda, &c., may be used when the nitrate fails.

American Jour. of Med. Science, April, 1843, *p.* 371

41.—PARALYSIS OF THE BLADDER CURED BY CANTHARIDES.

A patient was lately admitted into the Hôpital de la Pitie with paralysis of the bladder, for the relief of which all ordinary methods of treatment had failed. M. Lisfranc ordered the direct application of tincture of cantharides to the bladder by the following mode: One drop of the tincture was let into the organ through a catheter, and followed by an injection of simple lukewarm water. Next day two drops were similarly instilled, and the like operation was repeated night and morning for several succeeding days, an additional drop of the tincture being added on each successive occasion. By this method of treatment a cure was soon effected. M. Lisfranc found no perceptible local irritation to result from the use of the tincture in an undiluted form, while the direct application of the remedy to the organ affected was clearly preferable, in every respect, to its internal administration. *Lancet, June* 3, 1843, *p.* 348.

42.—NEW CLASSIFICATION OF MEDICINES.

M. Mialhe, in the "Bulletin de Therapeutique," states that his researches have led him to conclude that the greater number of substances introduced into the economy act chemically either mediately or immediately on the serum of the blood, some *coagulating* and others *fluidifying* its albumen. In the class of coagulants are ranged all tonic, astringent, and styptic agents, as most of the mineral acids, a great many of the metallic salts, tannin, creosote, ergot of rye, &c. The class of fluidificants comprises all true diuretics, with many alteratives and general excitants, including most of the vegetable acids, ammonia and its salts, the iodides, sulphurets, and alkaline chlorides, &c. But some medicines, which at first act as coagulants, afterwards become fluidifiant; this is the case with bichloride of mercury. Others, which have not any perceptible action on the albumen when first introduced into the circulation, become afterwards coagulant in a high degree. Of this class is ergot of rye. This sub-

stance, according to Mialhe, having after a time effected a thickening of the albumen, ultimately produces a firm coagulation, "or rather a process of organisation more than simple coagulation." By this action Mialhe explains all the known effects of the ergot; and he supposes the agaric used for stopping bleeding, the champignon, &c., to exert a similar coagulant agency.

Lancet, May 27, 1843, p. 308.

43.—DECOCTION OF OAK BARK.

This preparation has of late been strongly recommended by a French practitioner as an injection into dropsical cysts, as hydrocele, &c., after their previous contents have been drawn off. It is said to exert a marked tendency in preventing a subsequent accumulation of fluid. Its active astringent quality suggested to the above practitioner that it might be serviceable in promoting the contraction of the ring after the reduction of recent inguinal hernia; and the application for some time of compresses impregnated with a strong decoction of oak bark, kept *in situ* by a truss or bandage, has been in his practice attended with this result to the most satisfactory extent.—*Gazette Medicale.*

Lancet, June 3, 1843, p. 340.

44.—ELDER BARK IN CHRONIC DROPSIES.

The decoction and extract of this vegetable substance are reported to be remarkably efficacious by hydragogues, producing so speedy an effect on the urinary and fæcal secretions as to make it needless to use more than two or three applications. The proportions for the decoction consist of a couple of handfuls of the bark to a quart of water; dose, a wine-glassful a-day. The extract is administered in France in the form of pills, of one and a half grains each, of which from six to ten are taken in the twenty-four hours.—*Journ. de Med. et de Chir. Pratique.* *Lancet, June 3, 1843, p. 340.*

45.—APHONIA CURED BY GALVANISM.

Theodore Mandurik, a Dalmatian, twenty-four years of age, of sanguine temperament and a robust constitution, and who had usually enjoyed good health, killed one of his countrymen in a quarrel, for which offence he was incarcerated in the prison at Scardona. Three days afterwards he was attacked by a violent fit of epilepsy, followed by entire loss of voice, to restore which, external local and general bleedings, and antiphlogistic measures of all kinds were employed without effect. In a few months he was removed to the central prison of Zara, where he was examined by the medical staff. The tongue was somewhat enlarged, and preternaturally reddened, though dry, and the blood-vessels around its base were much distended. The sense of taste was uninjured, but the movements of the tongue and of the larynx were performed with difficulty. Leeches were now applied to the sides of the tongue; tartarised antimony, in both large and small doses, and drastic purgatives, were employed, and a tartar-emetic plaster was placed over the larynx; but all these means failed to restore a healthy action in the parts adjacent, and Mandurik was still compelled to keep his mouth partially open to maintain respiration, a function only performed by short and difficult inspirations. At length, about sixteen months after the attack, the voltaic pile was thought of, and a battery of fifty pair of plates was employed. The positive pole was placed over the cervical vertebræ, and the negative upon the parts affected. On the first day two hundred shocks were given, and on the second three hundred, but no perceptible effect followed. Two days were suffered to elapse, and a battery of seventy pair of plates was then used, with which about three hundred shocks were given. The patient was found acutely sensitive to the action of electricity, and a lapse of five days was permitted to intervene before its fourth application, which consisted of four hundred shocks with the latter-named battery. Whether these had been administered too precipitately, or whether his system had become more excitable by galvanism, the patient after this last application became much agitated, and subsequently fainted for a short time. Next day he

suffered intense headache, his face was flushed, eyes lustrous, pulse full and strong, from which state he was relieved by copious bleeding. But he now, for the first time, gave utterance to hoarse sounds. After six more days the battery of fifty pairs was again employed, and three hundred shocks were given. The same treatment was repeated every two or three days, and then, at similar intervals, four hundred shocks were given with the seventy-pair battery. The voice, meanwhile, and the motive powers of the tongue and larynx, gradually returned to their normal condition, and after the twelfth application the patient had completely recovered. The deduction drawn by the surgeon who has reported the case is, that no nervous affection whatever should be regarded as incurable till electricity in some form has been tried and found to fail.

Lancet, May 27, 1843, *p.* 291.

46.—MEDICAL USE OF SAFFRON.

In several cases of obstinate chlorosis that had not yielded to preparations of iron, in one case of puerperal fever in which digitalis and bleeding had failed, and in two cases of chronic artero-phlebitis, Dr. Morgante, of Verona, reports that he has employed saffron with the greatest success, commencing with doses in the form of pills, amounting to sixteen grains in the twenty-four hours, increasing the doses until the quantity is doubled. As to the manner in which this medicine acts—it is reported to be particularly effective in cases of increased action of the capillary vessels, and analogous in its effect to the more active preparations of iron.—*Memoriale della Medicina Contemporanea.*

47.—FACIAL NEURALGIA.

An ointment composed of veratria, one part, to eighty parts of lard, has been found very useful as an external application in cases of facial neuralgia. But the preparation is much more efficacious if made with rancid instead of fresh lard, which is probably owing to a salification and greater solubility effected in the veratria by the agency of the free acid in the fat.—*Revue Scientifique.*

Lancet, May 27, 1843, *p.* 304.

48.—BLACK DROP REDUCED TO THE STRENGTH OF THE TINCTURE OF OPIUM.

Take of hard opium, powdered, ℥iij; citric acid, powdered, ℥iss; boiling water, ℥xv; rectified spirit, ℥xxv. Pour the boiling water on the opium and citric acid; macerate for twenty-four hours; add the rectified spirit; again macerate for fourteen days, and strain.

Lancet. May 20, 1843, *p.* 280.

49.—TREATMENT OF DROPSY.

The main object in the treatment of ascites is, of course, to excite the organs, by the aid of which nature herself expels the serous secretions of the abdominal cavity; and accordingly such diuretic and drastic agents should be employed as are most likely to act at the same time on the absorbent system, the urinary organs, and the intestinal tube. In combination, also, with medicinal agents, a diet should be adopted at once solid and tonic, composed principally of broiled or roasted meats, toasted bread, &c., with small quantities of red or white wine; but on no account should the patient have recourse to toast and water, broths, gruel, or such like drinks; in fact, the principle should be to drink as little as possible, and instead of liquids to use jellies, oranges, and fruit generally, by way of demulcents. M. Delreyne, who advises the above regimen, recommends the following diuretic wine as suited to weaker subjects:

℞. Nitrate of potash, three drachms, and juniper berries, fifteen drachms, to be steeped for twenty-four hours in a bottle of wine water; dose, a glass daily.

This stimulant is especially useful in incipient dropsy, and cases of œdematous swellings of the extremities.—*L'Experience.*

Lancet, May 20, 1843, *p.* 282.

50.—AGENTS AFFECTING CAPILLARY CIRCULATION.

M. Poiseuille has established the fact that nitrate of potass or acetate of ammonia, added to water or serum, renders it capable of flowing more rapidly through either inorganized tubes, as those of glass, or organised, as the vessels of animals, whether in a dead or living condition. Alcohol has a precisely opposite effect, it checks the fluidification of the humors, and retards the flow of fluids in capillary or other tubes.—*Archives Gen. de Med.*

Lancet, May 20, 1843, *p.* 253.

51.—GERMAN TREATMENT OF ENGORGEMENT OF THE LIVER AND SPLEEN.

Dr. Schwabe, of Gross-Rudestadt, makes known to us the following recipe, which he has employed successfully against the above affections:

℞. Belladonna root, powdered, a grain and a half; muriate of quinine, four grains; powdered rhubarb, fifteen grains. Mix for ten powders; one to be taken morning, noon, and night, in any convenient vehicle.—*Casper's Wochenshcrift.* *Lancet, May* 20, 1843, *p.* 252.

52.—TREATMENT OF RICKETS.—By A. W. Close, Esq., Manchester.

[This gentlemen states that the softened state of the bones in this affection is owing originally to a deficiency in the supply of *the nutritive nitrogenised substances*. The affection is seldom seen during suckling, because the milk contains those elements which are exactly suited to the wants of the system. After weaning, the diet often adopted among the poor consists chiefly of potatoes, oatmeal, gruel, tea, coffee, and rice. Now *proteine* is only found in the two first in small quantities, and none in the rest. Among the middle and upper classes the diet after weaning is often sago, rice, or arrowroot, which certainly fatten the little children, but do not convey a sufficient quantity of nitrogen to the system. The diet ought to consist more of the nitrogenised substances when there is this disposition in the system, such as beef-tea, eggs, and wheat ground and made into bread without the separation of the cuticle of the grain, in which is contained the phosphate of lime, to whose absence the softened condition of the bones is usually attributed.] *Med. Times, Aug.* 19, 1843, *p.* 335.

53.—STRABISMUS IN HYDROCEPHALUS.

When strabismus in hydrocephalus of adult life exists only to a slight degree, it is I think noticed better at a distance from, than close to the patient.—*Dr. H. Kennedy.* *Lancet, July* 29, 1843, *p.* 618.

54.—CASE OF TRANSFUSION OF BLOOD.

[A very interesting case of this description is published by Dr. Prichard, of Bristol. It was that of a gentleman who had been reduced to an exhausted and exsanguineous state by a long continued draining of the system through the kidneys.]

His early complaints had been of dyspeptic symptoms. These were followed by emaciation and loss of strength. His actual state was that of extreme inanition; his pulse was feeble, jerking, very compressible, the calibre of the artery apparently not filled; he had palpitation of the heart, increased by the slightest exertion, while any effort brought on an approach to syncope. No disease was discoverable by the sounds of the heart or respiratory organs, though some suspicion was entertained of slight dilatation.

The state of the urine alone threw some light on the nature of the disease. It had long deposited a very copious sediment, of a whitish colour, slightly tinged with purple, which was redissolved by dilution, with the addition of an alkali. It appeared to consist of lithates, with some chyle; it was thought probable by the medical gentleman who had previously attended the patient, and by myself at our first meeting, that an exhausted and exsanguineous state, brought on

by a long continued draining of the system, constituted the principal disease, or at least that which first required attention. Under these circumstances, it was determined to try a restorative and repletive plan. A nourishing diet was ordered, with malt liquor and some other stimulants. His stomach would receive but little, and at length rejected food. His exhaustion increased to that degree that immediate fatal syncope was threatened. We determined, the patient being obviously *in extremis*, to try the effect of transfusion, and as patients under cholera had borne the injection of large quantities of fluid, there seemed to be no danger in injecting a considerable quantity of blood. Sixteen ounces were taken from the veins of a hale young man, a servant of the patient, and were injected most skilfully by Mr. Clark. The patient was immediately revived and roused. On the following day he appeared much stronger, but complained of some sense of fulness about his head, and a few drops of blood escaped several times from the nostrils. This subsided; his appetite became good, and he ate plentiful meals of meat, and drank porter, &c. He gradually recovered his strength. The urine improved under the use of alkalies with lime-water, and these were nearly all the remedies used except a few bottles of an effervescing solution of citrate of iron. After two or three months he left his chamber, and then his house, and I understand he is now travelling on commercial business. I think it may be inferred from the facts of this case that many lives may be saved by injecting good blood into the veins of exhausted patients, and, perhaps, this measure may become hereafter as important a remedial measure as the detraction of blood has been since the time of Hippocrates.

Prov. Med. Journal, July 29, 1843, *p.* 345.

55.—OILY CANTHARIDINE AS A SUBSTITUTE FOR BLISTERING PLASTER.

M. Buchner, senior, obtains this preparation by treating the coarsely-pounded cantharides in a displacement apparatus with weak æther of 0.776 spec. grav. until the æther passes free from colour. The greater portion of this latter is removed from the solution, and the residue exposed to a gentle heat until every trace of æther, alcohol, and water has disappeared. In this manner 11 per cent. of the cantharides employed is obtained, of a product which is liquid at a temperature of 76° to 86°, but becomes solid at 68°. It has a buttery, unctuous consistence, a greenish yellow colour, and a very disagreeable odour, which affects the head. 10 to 15 centigrammes suffice to produce a great blister; it must be applied on taffety or on paper. The following notice on the above communication is by M. Soubeirm:—The oily cantharidine of M. Buchner differs but slightly from the preparation employed in France, and which is obtained by treating the cantharides with officinal æther. It is an oily substance, which was recommended long since by M. Trousseau as vesicatory; and in fact it is very useful when recent, but if preserved the cantharidine separates gradually in the state of crystals, and the blistering property disappears. The following preparation, of which I have taken the formula from some German journal, but do not recollect the author's name, is employed to far greater advantage.

Extract Acetic of Cantharides.—Cantharides in coarse powder, 4 parts; concentrated acetic acid from wood, 1 part; alcohol of 0.849, 16 parts. Digest in the water-bath in a temperature of 40° to 50°, collate with pressure, filter, distil, and evaporate at a gentle heat. The product has a buttery consistence. M. Trousseau, who experimented with it, has been extremely well satisfied. It is only necessary to grease a little paper with this extract, and to apply it to the skin, to have in a very short time a blister formed. The consistence of this preparation, and especially the presence of acetic acid, prevent the crystallization of the cantharides.—*Chemical Gazette.*

Dublin Jour. of Med. Science, July, 1843, *p.* 539.

56.—COUNTER-IRRITANTS IN BRONCHITIS.

[Dr. Graves, in his work on clinical medicine, makes some excellent remarks on counter-irritant remedies, which are to be applied not merely over the

chest, but to the nape and along the sides of the neck, over the epigastrium, and in the course of the cervico-spinal and pneumogastric nerves generally. He thinks that—]

The spirit of turpentine exercises something more than a mere counter-irritant action, and proposes the following formula for imitation.

Strong acetic acid, ʒss; spirit of turpentine, ʒiij; rose water, ʒiss; essential oil of lemon, a few drops; yolk of egg, sufficient to suspend the turpentine. *British and Foreign Medical Review, July*, 1843, *p.* 248.

57.—MALAMBO, OR MATIAS BARK.

[This bark comes from South America: Dr. Mackay brought it before the notice of the British Association, and gave a portion to Mr. Houston for examination. It possesses a bitter, pungent taste, and forms with water an agreeable bitter infusion; with alcohol a powerful bitter tincture. Mr. Ure thinks that it coincides with Malambo, the Indian name for the bark of a tree which grows in New-Granada, and which is held in high esteem among the natives as a febrifuge and stomachic. Mr. Ure says—]

The above Colombian bark has been frequently administered by me as a substitute for cinchona with good effect. It offers the useful combination of a tonic and aromatic; and seems to exercise its beneficial influence on the principle laid down by Professor Schultz, with regard to other therapeutic agents of the same class, namely, in promoting an increased flow of bile, whereby digestion is perfected, and healthy blood formed. In scrofulous ophthalmia, after removing feculent accumulations from the bowels, I have known an infusion, made with two drachms of the bark to a pint of water, cause a speedy and complete removal of the inflammation and morbid sensibility of the eyes. The dose of the infusion just mentioned is from one to two ounces, repeated twice or thrice in the course of the day. It may, in some instances, be advantageously conjoined with salts of iron, or of mercury, with both of which it is compatible. The addition of a little syrup of orange-peel and compound tincture of cardamom forms a draught by no means disagreeable.—*Pharm. Journal, vol.* 3. *No.* 4, *p.* 170.

58.—VOMITING A CURE FOR PHTHISIS.

It is stated that 176 patients under consumption, 47 in the incipient, and 129 in the advanced stage, admitted during a period of four years into the military hospital at Capua, were ultimately discharged perfectly cured, their treatment having consisted in the administration of a table spoonful night and morning, of the following mixture:—Tartarized antimony, three grains; syrup of cloves, an ounce; decoction of marsh mallows, six ounces; mix. The dose was to be repeated until vomiting ensued.—*Annali Univ. di Medicine.*

Lancet, July 22, 1843, *p.* 583.

59.—MERCURIAL CIGARS.

M. Paul Barnard lately proposed to the Acad. de la Medicine, the use of cigars impregnated with a weak solution of bichloride of mercury for persons affected with syphilitic affections of the throat and palate, as a mode of conveying mercurial fumigation. It has been proposed first to deprive the tobacco of its narcotine by frequent washings.—*Lancet, May* 13, 1843, *p.* 216.

60.—MACHINE TO PURIFY THE AIR.

The *Courier Francais* states that a most curious experiment has been lately made in the hospital of the Salpetriere at Paris, with a machine invented by Dr. Payerne, called the purifier, the object of which is to purify the air, without renewing it, in hospitals, prisons, mines, diving-bells, and, in general, in all places where the air has been vitiated. This experiment was witnessed by several distinguished chemists and physicians. Dr. Payerne purified the air completely in an enclosed space, without communication with the external air. The thermometer at the same time, descended several degrees. Dr. Payerne proposes, in a few days, to make an experiment with his machine in a diving-bell

in the Seine, by which the divers may remain an indefinite time under water, without communication with the atmospheric air.—*Med. Gaz., Nov.* 10, 1843, *p.* 191.

61.—URIC ACID SOLUBLE IN LACTIC ACID.

Dr. Challier, of Dublin, says, "Whilst engaged last year in some chemical investigations, I found that uric acid was readily dissolved in lactic acid. I believe that uric acid is kept in a state of solution in those liquids in which it is found to exist, such as urine, by the presence of a certain proportion of lactic acid, and, consequently, if there be a deficiency in the proportion of the latter, the quantity of the former deposited will be in an equivalent ratio. If this fact be once well established, the results will be highly important, inasmuch as it will elucidate altogether the obscure phenomenon of the formation of the uric acid calculus, which is universally known to be the most frequent. It will also furnish us with the data for a more correct constitutional treatment of the disease. That lactic acid is capable of dissolving phosphate and oxalate of lime, &c., is a fact already noticed by chemists, but it is singular that medical men have entirely overlooked this property, which it is more than probable can be made available in the treatment of abnormal deposits.—*Dublin Medical Press, September* 13, 1843.—*Prov. Med. Jour., Oct.* 21, 1843, *p.* 60.

62.—ADVANTAGE OF MEDICINES IN A LIQUID FORM.

It has been found that fifteen grains of sulphate of quinine, given in infusion of senna, is more efficacious as a tonic, notwithstanding the purgative quality of the mixture, than twenty-four grains of sulphate of quinine administered in the form of pills. Panizza supposes the causes of this to be that the senna, by promoting the peristaltic action of the alimentary tube, and augmenting the secretion of the bowels, excites the production of a fluid adapted perfectly to dissolve the quinine; and that the quinine, in passing through the intestine in a state of solution, is placed in contact with a much larger extent of surface, and disposed for absorption much more readily than if taken in a solid form.—*Panizza, in L'Experience.—Lancet, Nov.* 4, 1843, *p.* 158.

SURGERY.

63.—DISLOCATIONS OF THE ASTRAGALUS.—By THOMAS TURNER, Esq., Surgeon to the Manchester Royal Infirmary, Lecturer on Anatomy, Physiology, &c.

[This is one of the best papers which have recently appeared in our periodical literature, and though it treats of a subject which may not so frequently be met with in general practice, it is the more difficult to handle. In giving an abstract of this paper, we shall pass over that part which treats of the anatomical relations of the astragalus, and of the forces by which dislocations of this part are produced, and will confine our remarks as much as possible to the treatment required. This will be comprehended under the following divisions:—1. Partial reduction. 2. Complete reduction. 3. Left to nature in its new situation. 4. Partial excision. 5. Complete excision. 6. Amputation.]

Partial reduction is shown by the results to be (as we might, *a priori*, suppose) less favourable than *complete reduction*. In dislocations backwards, the sequel of *allowing the bone to remain in its new situation* has become most satisfactory; but not so in dislocations in the other directions. *Partial excision* left a useful foot in three out of six cases; in the remaining three there were defor-

mity, lameness, and anchylosis The results of *complete extirpation* of the astragalus have been very encouraging, when we consider the desperate character of the accident which demands this formidable mode of procedure. In thirteen cases out of eighteen, a very useful limb remained; in one only was there true anchylosis, and death occurred in four cases. In no simple case was there a fatal result; it is, therefore, to be presumed, that death happened rather from the conjoint injuries which the soft part sustained by the violence which produced the compound, and compound and complicated luxation of the bone, or by the force used in attempts at reduction, or both united, than from the operation itself; and there is a weighty argument in support of this opinion, in the fact, that the cause of death in the four examples was diffuse cellular inflammation, extensive suppuration, sloughing, &c., the latter being the sequel of the former; and as affording additional evidence of this truth, it may be mentioned, that in three out of the four cases the accident was *compound* and *uncomplicated;* therefore cases where there was no division of the effects of force, but a direct contraction of it on the joints and surrounding textures. That the degree of injury which the soft circumjacent tissues receive, has a material effect in influencing the result, is further demonstrated by the fact, that dislocations in the anterior and posterior aspects of the foot, do much better than lateral luxations, as they are not usually accompanied with so much laceration of the ligaments, tendons, fasciæ, and skin, in the former as in the latter localities.

[In all these cases one very important circumstance to attend to is to distinguish between partial and complete luxation. It would appear that the partial reduction of a complete dislocation is almost as difficult to effect as complete reduction, and if the bone can be partially reduced, the unreducible portion, in case the dislocation be compound, should be excised, to prevent the foot from becoming permanently fixed by the mechanical obstacle which the projecting bone opposes to the movements of the ankle.]

If the astragalus be partially dislocated, and not twisted round, as it often is when the dislocation is complete, there is reason to hope that reduction may be accomplished: because if the bone retains, in part, its position between the tibia and os calcis, the main obstacle to success, namely, the forcible traction of the one bone to the other, will not occur; this obstacle to reduction, which exists in all cases of complete luxation of the bone, in whatever direction the astragalus may be ejected from its articular surfaces, is not brought about by the action of the gastrocnemii alone, but by all the muscles which pass from the leg to the foot, behind the malleoli; and, therefore, although we should gain a point in bending the leg upon the knee, by which we relax gastrocnemius externus and plantaris, we cannot annihilate the action of the soleus, the peronei, tibialis posticus, and flexor muscles of the toes, in the same way; as the foot is in this accident often fixed, and cannot be extended, so as to enable us to put these muscles in a state of relaxation. In cases where the astragalus is changed in its position, the bone is always very firmly locked in its new situation. It is recorded that in three or four instances in which M. Dupuytren extirpated the astragalus, he found the bone fairly turned over upon itself, and the same has been noticed by the author and by other surgeons. This eminent surgeon (Baron D.), reasoning upon this fact, states "that we cannot be much surprised that the reduction of dislocation of the astragalus is so difficult, or even altogether impracticable; but even when this bone has not become reversed, we shall find that the configuration of the articulating surface and of the os calcis, suggests a very obvious explanation of the danger of their forcible disjunction and separation.

In considering the subject of reducibility and irreducibility of the astragalus, when completely luxated, we must always remember that the bones of the leg are actively and forcibly drawn towards the os calcis, so as to obliterate the space normally occupied by the astragalus. This being admitted, the question of reduction involves, firstly, the possibility of separating the bones of the leg from the os calcis, to such an extent as will admit of the replacement of the dislocated bone. If the space gained by extension, counter-extension, and other manœuvring, be sufficient for this purpose, if the bone be not much detached from its connecting textures, and not inverted, everted, or turned upon itself in any

considerable degree, it might be restored to its primitive situation: but the safety of returning it is the next and a very serious consideration; since, if the bone be so loose and detached as to be capable of being easily reduced, it is not likely that it will die from want of sufficient vascular connexions; and shall we not thus put the patient in a more hazardous condition than if the astragalus had been excised or allowed to slough from its new situation? A reference to cases will prove that in many instances of dislocation forwards, inwards, and outwards, simple as well as compound, that the bone sloughed where extraction was not performed; but in the instance of luxation backwards, the bone scarcely seemed to act at all as an extraneous body, *i. e.*, it neither died nor did it excite a great amount of local or general disturbance; this difference in the results of dislocation backwards, when compared with anterior and lateral dislocations, justifies a more decided negative to extirpation of the bone in the former case than in the latter instances. In irreducible simple dislocations forwards, inwards, or outwards, the author would not extract the bone in the first instance, but in most compound cases he would not hesitate to do so without a moment's delay. In revising the subject of reduction, it is obvious that the rigid and unyielding approximation of the leg to the foot, by the powerful action of muscles, is the most insuperable obstacle to the replacement of the luxated bone; but although the main difficulty, it is not the only one: the bone may be girt by the capsule of the joint, and by tendons of muscles; but these are, comparatively speaking, trifling impediments in the way of reduction. It can easily be imagined that the girting effect of an opening in the synovial capsule, only just large enough to give exit to the astragalus, would be one impediment to reduction; that the circumstances of the bone being embraced by the fibres of the torn ligament, by separated and displaced tendons, and by the edges of a small integumental opening, would all and severally oppose replacement; but they would not prove insuperable obstacles, as the opening in each may be extended.

[Mr. Crosse of Norwich, suggested to the author whether or not the division of the tendons passing behind the ankle to the foot, would be justifiable as a means of annihilating the action of those muscles which form such an obstacle in these cases. Mr. Turner says:]

It is quite certain that the division of the tendons which pass to the heel, and behind the malleoli, would have the effect of subduing the action of the muscles which draw the foot to the leg, and fix it there; but there are considerations connected with this practice; firstly, we must here revert to the observations which we made when speaking of reduction, namely, that the astragalus may be so far insulated from its soft attachments, from which the periosteum derives its vessels, as to render the death of the bone inevitable; in which case it would act as a foreign body, and more harm than good would result from its replacement. Secondly, if the tendons were cut through behind the ankle, they would be retracted in their thecæ so as to lose all attachment with the bones of the foot; the foot, therefore, would become a passive appendage to the leg, and would furnish no basis for its unless anchylosis (which is not the most favourable termination) took place, and the proper angle of the foot with the leg preserved.

In complete compound dislocations of the astragalus alone, without fracture or solution of continuity and connexion in the bones and joints of the tarsus, all attempts at reduction are not only hopeless but prejudicial; and although we may be justified in hazarding the chance of allowing the bone to continue in its new situation, where the luxation is simple, extirpation ought always to be performed when the accident is of a compound kind. If the astragalus be completely luxated, whether in a simple or compound way, and there is no derangement in the position of other parts about the joint, save the approximation of the tibea and fibula to the os calcis, which, I contend, is the invariable attendant on *complete* luxation, the bone is almost immoveably fixed in its new situation, and reduction is almost impossible; and, again, when the bone is reversed in position, or thrown out of its natural axis, replacement is absolutely impracticable.

If the astragalusc annot be reduced, the inquiry which next obtrudes itself upon us is, whether the dislocated bone ought to be permitted to remain in its abnor-

mal situation, with the hope that, should it not die, nature will in time accommodate herself to its presence, and experience therefrom no great degree of inconvenience; and that, should it die, whether ulceration will ensue and the bone be cast off by natural means? The question is one which demands deliberate consideration. We have seen, in the detail of cases, that in all the dislocations backwards (one excepted) the cases were left to nature, and did well; the conclusion, therefore, at which we may safely arrive is, that in this kind of luxation we are not to interfere, except by making reasonable efforts at reduction; for the case ought not to be abandoned without hope, as Mr. Liston succeeded, on one occasion, in reducing the bone. The author stated that in one instance of luxation of the astragalus from the os naviculare, the bone was allowed to remain in its new situation; and although the movements of the foot were for some time restrained, yet ultimately they became free. This is encouraging in reference to this form of accident, and may be applied to confirm the belief, that if the astragalus be partially and simply luxated either forwards, outwards, or inwards, and is irreducible, we should not interfere, but leave the case to the resources of nature. But what is to be done in case the dislocation is *complete, although simple?* Mr. Syme, Baron Larrey, and some other surgeons, advocate removal of the bone. Boyer and others seem by their practice to be opposed to this opinion.

Mr. Turner thinks the following is the safe line of practice:—In partial cases, whether simple or simple and complicated, should attempts at reduction fail, there must be no operative interference. In partial and compound, or compound and complicated (reduction failing), excision, if practicable, of the protruded portion of bone should be performed. This proceeding gives great facilities to the proper adaptation of the parts; but leaving this out of the question, by neglecting partial excision we incur one of two risks: firstly, the exposed or prominent part of the bone may die, and the patient have to undergo the tedious and trying processes of inflammation, suppuration, and exfoliation, and the death of one part of the bone may endanger the vitality or disease of the remainder, and ultimately involve the ankle joint (as in one of M. Boyer's cases), and demand, as a last resource, amputation, as the means which alone could give to the patient a chance of life; and if the extruded portion of bone should not be excised, and continue to live, its presence would so far restrain the action of the ankle as to produce permanent contraction of the heel, permanent inflexibility, and permanent lameness, as in one of our recorded cases. It is, however, to be remembered that this practice does not apply to *partial* and *simple* dislocation of the astragalus in *any* direction; for the justifiability of operation in partial luxation, when there is no external wound having a direct communication with the displaced bone, is very questionable. The practical proceeding in complete and simple, or simple and complicated dislocation, will be determined by the position of the bone: if its protrusion be direct, in reference to its axis, and cannot be reduced by moderate efforts, the case ought to be left to nature, because, although the chances are against its remaining passive, it will be well to wait the event; and should the skin inflame, and other matters predicate the tendency to ulcerate through, it will be better to save the patient this source of irritation, by an incision over the site of the astragalus, and leave the extrication of the bone to the efforts of nature, or at all events until it is so loose as to be easily extracted. The grounds of this practice are, to take off tension, to abridge the process of ulceration, and to put the parts in such a position as will remove pressure from the adjacent textures.

[In some of the cases related by Mr. Turner, the astragalus was *partially* removed. Cases of this kind are related by Mr. Lowe, Mr. Ceeley, Dr. Stevens, and others; but a better practice is the complete excision of the bone. On this subject Mr. Turner says—]

It is no longer problematical, as to the expediency and safety of extracting the astragalus in certain cases of dislocation of this bone; for in addition to the eighteen examples given in the table, there are others mentioned in the progress of our inquiry; and it will be remembered that the operation was successfully performed by Fabricius de Hilden, Larrey, and by the late Mr. Tyre, of Glou-

cester, and doubtless by many others, whose cases have not been made known to the profession through the medium of the medical press. The testimony of our most distinguished British surgeons and of those on the continent, is in favour of excision. Baron Larrey, who had not seen many cases of luxation of the astragalus, has given it as his opinion, that it is an accident which requires extraction of the bone; and Baron Boyer, who has written most ably on the subject of dislocations, says, "that if the astragalus has almost escaped through the wound in the integuments, and the ligaments much torn, the wisest course to adopt is to extract the bone, since in this case the astragalus must be considered as a foreign body; therefore, if it could be returned to its natural situation, it would not be likely to unite with the other bones of the foot, and, therefore, its presence there would be a source of serious consequence." It is an opinion to which every surgeon must subscribe, that if the astragalus were completely luxated and severed from all or most of its connecting textures, the best practice would be to extirpate the bone; but it is important to determine in what instances it is particularly demanded. Our table will show the cases in which the operation of extracting the bone, either immediately or consecutively, was adopted, and it gives the results. In eighteen cases, thirteen recovered with useful limbs, one with anchylosis, and in four cases death ensued.

[Few patients, perhaps, would submit to the bone being removed without some attempt at reduction. This, therefore, ought previously to be made, except in some cases in which experience has proved that it is impossible and positively injurious.]

Complete excision may be called for, sooner or later, in the progress of the case, or its performance may be immediate. Simple cases may be followed by the death of the bone, subsequent ulceration, and sloughing, consequent upon which it may be required to excise the bone from its ligamentus and cellular connexions. The author has ventured an opinion that nature ought to be aided in the ulcerative process of the skin and subjacent fascial textures by incision, and that the surgeon's subsequent aid is useful in extirpating the bone. When simple and complete dislocation is indirect, *i. e.*, attended with altered axis of the bone, it is fair to presume that the astragalus has been so far severed from all its connexions as to die infallibly, in which case, the author would propose immediate incision over the bone, with a view to remove tension and to expedite its escape; but it might not be proper to proceed to the immediate excision of the astragalus. But in isolated compound dislocations no attempt should be made to reduce, but extirpation immediately had recourse to; and especially, and beyond all controversy, if the bone be inverted, everted, or turned upon itself; for if this practice be not followed, the patient will, to say the least, remain a cripple for life, with his foot miserably distorted, or will incur imminent peril from inflammation, suppuration, and gangrene of the foot and leg, and probably loss of limb or life; whereas, by the removal of the astragalus, he may recover with a useful foot, and be exposed to little comparative danger.

It may be summarily stated, that in simple, direct, and complete luxation, the author advocates the practice of allowing the bone to remain in its new situation, without any operation, until it manifests a tendency to ulcerate the skin, in which case he would make an incision over the bone to relieve tension and pressure; and that when the bone is so far detached from the circumjacent textures by the natural process of separation, he would remove it. In simple, indirect, and complete luxation, he would anticipate, as a matter of certainty, that the bone would die and require dislodgement; to take off tension and pressure from the angles of the displaced bone, he would at once make an incision over it, but not remove the bone, wishing to benefit by the probability that the exposure of the cavity of the joint may have an injurious effect. In complete compound luxation, whether direct or indirect, or complicated, with fracture or with dislocation of the ankle joint, he would immediately proceed to the removal of the astragalus, from believing that the limb will be put in a better condition for the reparative process of the joint, by the abstraction of the processes of inflammation, suppuration, ulceration, and sloughing (processes necessary

to the disengagement of the astragalus by natural efforts); for if these be saved, nature will be able to direct, undividedly, her sanatory operations to the interior or deeper-seated parts; whereas, if her powers are divided between the extrication of the astragalus from its abnormal situation, and the reparation of the joint, they might be insufficient for the purposes required, and the limb or life fall a sacrifice.

The operation of excising the bone may be very easy, and free from danger, when the bone has been almost wholly separated from its connecting ligaments and other textures; but in other cases its attachments may be so firm, and the space in which we have to dissect, so much encroached upon by displaced tendons, and the posterior tibial artery so denuded of its protecting coverings, as to render the operation of extirpating the bone not only exceedingly difficult, but without great care exceedingly dangerous; this latter circumstance, however, is the main source of danger, as the artery is much exposed, and in some instances it has ulcerated or sloughed, and given issue to alarming hæmorrhage. The after-treatment of the operation consists in placing the leg and foot in close apposition, with due attention to the proper angle of the one with the other; and in this position they are to be kept by splints and apparatus with foot board. Great caution is necessary to keep the tibia well applied to the os calcis, for if the former were to become displaced much backwards, there would be no union, and no joint, and the foot would become a loose and useless appendage to the bones of the leg. In almost every case, the length of the affected limb is diminished about one inch, a defect which may be easily compensated for by the use of a high-heeled shoe.

[In his report Mr. Turner has recorded some cases in which the limb was amputated in consequence of other severe injuries being associated with astragalus. In all these cases the surgeon ought ever to bear in mind what severe operations may be performed connected with the ankle, with safety and success. The sawing off of the extremities of the tibia and fibula, excision of the bones, and exposure of joints, have all ended successfully; in short, as Mr. Turner says—"That dread which surgeons entertain with respect to wounds of joints, and disarticulation of bones, seems almost to vanish from the mind when the ankle and foot are concerned, since the annals of surgery furnish us with more terrible operations and practices, undertaken about this region, than about any other part where similar textures exist."]

The injuries which require the consideration of *immediate amputation* of the limb, in connexion with our present inquiry, are laceration and contusion of soft parts, united with simple, simple and complicated, compound, compound and complicated dislocations. The injury to the circumjacent textures ought to be extremely severe ere amputation should be had recourse to; but no general rule can be given to the surgeon, since much must depend on the age, constitution, and habits of the patient. If young, and in vigorous health, the case may, in a general way, be hazarded; but in a person past the meridian of life, of unsound constitution, and further impaired by debauchery and over stimulation, amputation would become a matter for serious deliberation. A person more advanced in years, healthy, and not prematurely aged by excess, would stand a better chance than the last patient; therefore, more may be risked in this than in the preceding instance. The truth of these practical deductions might be illustrated by numerous examples.*

Trans. of the Prov. Med. Assoc., vol. ii., p. 367.

[There is an excellent memoir published by MM. Rognetta and Fournier Deschamps, on extirpation of the astragalus.]

It affords confirmation of the practice advocated by Mr. Turner, and likewise illustrates the old remark, that over-abundance of advice, though useful to the surgeon, is not always so to the patient, the latter, having in this case, in conse-

* Mr. Turner, in his paper, refers particularly to the assistance which he derived from the communications of Mr. Smith, senior surgeon of the Leeds Infirmary, whose attention had for some time been directed to the same subject, and who intended to have published a paper on these dislocations, had he not been anticipated by Mr. Turner.

quence of the multiplicity of surgeons, narrowly escaped losing his limb, instead of preserving a very useful one, as he now does. The case affording the text for this memoir, was one of the many serious injuries supplied by the horrible catastrophe on the Versailles railway in May, 1842. It was one of compound dislocation, with fracture of the astragalus, unattended with much contusion of the soft parts. Some difference of opinion existed amongst the surgeons who first saw the case, as to the line of practice to be followed; the author preferring excision of the bone, whilst another surgeon proposed amputation. Some delay in consequence followed, but ultimately the bone was excised by M. Rognetta, and the patient recovered completely. The most remarkable feature in the case is, that the patient recovered without shortening of the limb, a result which one could scarcely credit, were the case not well authenticated, inasmuch as in every other recorded case where a similar practice had been followed, the reverse, as might be expected, was the consequence.

Lond. and Edin. Monthly Jour. of Med. Science, Aug.. 1843, *p.* 745.

64.—LITHECTASY.—By W. Fergusson, Esq., F.R.S.E., Surgeon to King's College Hospital, &c.

[We have before referred to this operation, which is so highly extolled by Dr. Willis—and a successful case of which was published in Retrospect, Part vii., art. 52, in which Mr. Elliott, of Carlisle, fully confirms the favourable report made by Dr. Willis. This case of Mr. Fergusson, however, was not successful, and is the means of drawing from this gentleman some observations which tend rather to discourage the operation than to encourage it. We do not think, however, that one or two cases ought to discourage an operation which is supported by respectable testimony as to its safety and efficiency. Alex. Brakefield, aged 64, was admitted into King's College Hospital under Mr. Fergusson's care. The case was one of long-standing, having commenced twelve years ago with difficulty in making water, which continued for seven years, when symptoms of stone appeared. At the time of the operation a stone about the size of a walnut was detected, and also several smaller portions, which were supposed to be mostly fragments. The steps of the operation were as follow—]

To-day had an enema at eleven o'clock, A. M.; and at half-past one was brought into the operating theatre and bound up in the usual manner as for lithotomy, an ordinary sized staff, with the groove on the convexity, having previously been introduced into the bladder. The staff and scrotum being held as for the ordinary operation, an incision was made along the raphe about one inch and a half in length, terminating about half an inch in front of the anus, from which point two incisions, each about three-fourths of an inch in length, were carried downwards and outwards. The superficial cellular tissue being divided to a similar extent, the point of the knife (a common lithotomy bistoury) was thrust into the groove of the staff a little in front of the triangular ligament. The edge of the blade was so applied as to divide the triangular ligament to a slight extent, first downwards and outwards on one side, and then in a similar way on the other; the groove of the staff being then distinctly felt by the forefinger of the left hand, the metal point of an Arnott's dilator was placed within it, and slid cautiously into the bladder. The staff was next withdrawn, and the bag of the dilator was partially distended with a solution of gum arabic, the distension having been continued until the patient complained of pain. He was then unbound and carried to bed. He seemed to suffer little during the operation, and when removed from the table his pulse was firm and countenance cheerful. Very little blood was lost from the wound. Three o'clock, P. M.—Feels a little pain in the perineum from the action of the dilator, into which additional quantities of fluid have been thrown at brief intervals. Had a desire to void his urine, which has just been drawn off by slipping a female catheter along the upper surface of the dilator, and now feels relieved. Fluid quite clear. Four, P. M.—Five ounces of urine have just been drawn off by the catheter, some of the fluid from the dilator having been allowed to escape before slipping the instrument along; dilator again distended, and patient making no

further complaint. A slight oozing of blood from the wound. Five, P. M.—Has had slight shiverings within the last half hour. The dilator being now fully distended has been withdrawn, and one of larger dimensions substituted. This instrument is provided with a tube in the centre, which permits the urine to flow freely from the bladder. Seven, P. M.—Complains of slight pain above the pubes, and also in the perineum in the course of the dilator. No more shivering; pulse 96, full and strong; has taken a little tea, and had about an hour's sleep; blood still oozing from the perineum. Ten, P. M.—Has less pain; feels much more comfortable; has slept again, and feels refreshed; pulse 92; skin cool; tongue moist, and little thirst. About an hour ago had great desire to make water, accompanied by some straining. The dilator withdrawn, and a larger one introduced, the house-surgeon being instructed to fill it at intervals, in accordance with the patient's feelings.

25. One, five, and nine, A. M.—Nothing unusual during any of these intervals. Has slept pretty well; pulse averaging about 84, and in every respect seems as comfortable as could be expected. At nine o'clock the dilator (about one inch and a quarter in diameter) seemed fully distended, and it was resolved to attempt the extraction of the stone. The patient was placed on the edge of the bed, and (the dilator having been removed) the forefinger of the left hand was placed along the wound through the neck of the bladder until the stone was felt. Some fragments lying close beside the neck of the bladder were removed by aid of the scoop, which required to be introduced several times, when a small pair of forceps were used to seize the stone. This being effected with little trouble, an attempt was made to extract, but with no benefit, the stone seeming too large to pass along with freedom. A pair of forceps slightly larger were then tried, and next a hook, but with no favourable result. The forceps were again used, and with some additional force, but still there was resistance. The blades were now forcibly closed with a rapid motion, when the stone split into fragments, which were readily removed without further trouble. A careful search having been made for fragments, and the bladder having been cleared with a syringe and warm water, the patient was replaced in bed. He seemed fatigued and shaken by the proceedings, but was speedily relieved with a little wine and water. More blood was lost than during the cutting part of the operation. The different fragments of stone weighed, together, two ounces. Eight, P. M.—In the early part of the day had slight shivering, with a weak and fluttering pulse, but soon got better after taking a little wine. Pulse has risen in the course of the day from 98 to 124. Has complained of pain in the wound, also in the abdomen immediately above the pubes, and has felt oppressed with heat, the day being very warm. Has been thirsty, and the tongue has occasionally been parched. In the evening has had slight vomiting of a greenish coloured fluid. Has slept at intervals; bowels been once moved; urine passing freely through the wound; has taken from time to time small quantities of barley-water with a little wine, and sometimes an effervescing draught.

26. Nine, A. M.—Had an opiate and diaphoretic mixture last night; has slept tolerably well, though occasionally restless, and still troubled with complaints similar to those of yesterday. Vomiting of a bilious character, and has been ordered five grains of blue pill. Abdomen has been fomented, from which he has experienced some relief. Ten, P. M.—Has improved during the day. Has now no sickness; tenderness of abdomen gone off; bowels have been moved twice since the morning; skin cool and moist; tongue almost natural; pulse 88; respiration 18, easy; water passing freely by the wound.

27 and 28. Every thing going on rather favourably, although in the course of a day the pulse and respiration vary considerably. Complains at times of pains in different parts of the body and abdomen. Wound looks healthy, and urine passes freely.

29. Nine, P. M.—Has had a restless night, and complains of tenderness of the abdomen, which is aggravated by a troublesome cough. Is rather feverish, and appears weak and depressed. Wound still looks well. Ten, P. M.—Fever has increased during the day, and tenderness of abdomen still continues.

Complains of flatulency, and there is slight tympanitis. Pulse 123, small and weak. Appears low and distressed, having an anxious, pinched expression of countenance. In the course of the day the wound has looked sluggish, and hot dressings have been applied. To have an ounce of wine every hour, and five grains of sesqui-carbonate of ammonia with one drachm of compound tincture of cardamoms in an ounce of camphor mixture every four hours. An opiate enema in the evening.

30. Since last night has gradually become weaker. Brandy and wine have been exhibited at frequent intervals, but with no benefit. He died at seven o'clock, A. M.

Sectio Cadaveris, thirty hours after death. The peritoneum contained a small quantity of sero-purulent fluid, but presented no trace of active inflammation at any point. In the *cul de sac* between the bladder and rectum the surface was of a blue colour, such as is the effect of putrefaction in warm weather. The surface of the wound, so far as it could be seen on looking from the perineum, was of an ash colour. The rectum and bladder, with the skin and other tissues in the perineum, the symphysis pubis, and a portion of the penis, were removed. The fat and cellular tissue were cleared away, so as to permit a more accurate inspection of the parts in the vicinity of the neck of the bladder. Between the angles of the pubes and the latter part the textures seemed in a natural condition; there was no appearance of contusion, laceration, or infiltration of blood. Towards the right side of the prostate there was a slight ecchymosis, but the external surface of this gland, on the left side, was in a natural condition. The cellular tissue between the bladder and rectum, and that lying on the outer surface of the gut, was softened and slightly infiltrated with a sero-purulent fluid. The softening appeared partly the result of inflammation and partly of putrefaction. The side of the rectum next the opening into the bladder was of a bluish colour, similar to that on the lower part of the peritoneum. The ureters (especially the left one) were larger than usual; they were traced into the bladder, and at these points, as well as in the site of vesiculæ seminales, the bladder, although externally it seemed healthy, was somewhat thickened. The finger passed readily along the opening into the bladder, coming, in its course, into close contact with the rectum. The lateral lobes of the prostate were distinctly felt, the inferior and upper portions being by no means so perceptible as usual. The aperture here seemed like a vertical slit. The original opening into the urethra was at the back part of the bulb, and in this vicinity there were scarcely any traces of contusion. The interior of the bladder was exposed by a semilunar incision through the tunics on the left side. The mucous membrane presented no appearance of inflammation; it was, however, extensively sacculated, and several of the pouches were filled with concretions, some of them forming distinct elevations, about the size of peas, on the outer surface of the bladder. The membrane at these parts was remarkably thin. A close inspection of the neck of the bladder in the vicinity of the orifice detected slight marks of contusion, and here the surface of the opening appeared somewhat ragged, and it was apparent that the prostate had yielded chiefly in its lower part and next in its upper. The wound was covered with shreds of lymph, and here the colour was similar to that observed on the perineal end of the opening. A slit was made along the left side of the track, and the interior presented a rough lacerated surface, the mucous membrane of the urethra being nowhere visible, excepting at the upper part, where it was continuous with that in the sound portion of the tube. The kidneys were of a natural size, pale in colour and soft in texture. The right pelvis contained about eighteen or twenty small concretions, each about the size of a pin's head. The viscera of the abdomen generally healthy. No other region of the body was examined.

[This operation has not only been performed successfully by Mr. Elliott, of Carlisle, but also by Dr. Wright, of Malton, on a subject advanced in years, who seemed an unfavourable case for any operation. Mr. Fergusson moreover acknowledges—]

That in this particular instance the operation had not received every jus-

tice, for more force had been used in the extraction of the stone than was in accordance with the principles on which it should be conducted. The fragments had been taken away with the scoop without violence of any kind, but when the large stone was between the blades of the forceps he had felt unwilling, for a time, to relinquish the grasp, and here he had applied as much force as he occasionally used in lithotomy. In the latter operation he had often used much more, and some of the cases on which the pupils had seen him operate during the winter were examples of the kind. In these there had been no unfavourable issue; and though he admitted that lithectasy, in the strict sense, had not been perfectly performed in this instance, he could not attribute the unfortunate result solely to the force used in attempting to extract the stone entire. On any future occasion he would suggest that a longer period should be expended in using the dilator, and also that in the event of the stone proving too large for ready removal, the lithotrite should at once be used as recommended by Dr. Willis, and as had, indeed, been done by Dr. Wright, in his successful proceeding. It was a disadvantage having to deal with a broken stone, from the possibility of some fragments being left behind, and also from the necessity for the repeated introduction of instruments to clear out the bladder; but possibly these were less to be apprehended as dangers than the application of great force, or the formation of a very large orifice in the neck of the bladder. It was his opinion that in such an operation there would always be greater difficulty in extracting a stone of any considerable size than in lithotomy; for in the latter case the wound extended down alongside of the anus, and the forceps holding the stone could be more readily depressed; while in the former the manœuvres were conducted near the angle of the pubes, and consequently, in the narrowest part of the space between the bones, a space which the experienced lithotomist was always careful to avoid.

The probable immediate cause of death in this instance might be accounted for in various ways. Fever, like that which sometimes follows lithotomy, or a similar condition from sub-acute inflammation in the pelvis might, one or both, be adduced; or it might be said that the constitution had sunk under the inflammation, as is occasionally seen after operations on old men in other parts of the body. It was not unusual to see old persons sink after injuries of a much less serious kind than such as had been inflicted here; and he instanced a case where, after the application of a ligature to the superficial femoral artery of an aged man, death occurred on the fourth or fifth day, apparently from an inflammation having been induced in the cellular tissue of the thigh, similar to that which seemed to have been present in the pelvis in the patient whose case was under notice; yet in that instance, as in many others which he had seen, the necessary operation was completed with comparatively very slight injury of textures. Instead of attempting to account for death from any equivocal cause, he thought it most reasonable at once to attribute it to the operation; for whatever state might have existed immediately before the fatal termination, there could be no doubt that it had been brought on by the operation itself.

This case added to the others already referred to, gave additional proof that a stone might be extracted from the bladder without cutting into the neck of that viscus, but it yet remained to be proved in how far such a proceeding was safer than the ordinary operation of lithotomy. It was only from a number of cases that such proof could be obtained. The statistics of lithotomy had been founded on the results of thousands of cases, and with lithectasy, as with lithotrity (even in the present day), such proof was still required by the results of hospital practice. Mr. Fergusson then directed attention to the triangular or X-shaped incision which he had made in this operation. He believed that it gave much more room than a single line, and also that it made the perinæum more shallow; while, from being in the middle of the perinæum, it permitted of an equal distention on both sides. An external incision, of a somewhat similar kind, might, he thought, be of service in some instances of lithotomy where the perinæum was deep and the stone large. In conclusion he stated his satisfaction with the nature of the dilator, and thought it infinitely to be preferred, for certain purposes, to the ingenious pieces of mech-

cision constructed by Weiss and other instrument-makers, which had been in use for the last fifteen or twenty years. The blades of such instruments usually pressed on particular points, but the bag of the dilator pressed equally throughout its circumference; and should he be required to dilate the female urethra for the purpose of extracting a stone, he would use this apparatus in preference to any other. *Lancet, July* 22, 1843, *p.* 574.

[We here subjoin some excellent remarks on this subject by Dr. James Arnott, of Brighton, who seems to have come forward since these operations of lithectacy, to support his favourite idea of dilatation of fluid pressure; and we certainly think the profession is under great obligation to both Drs. Neil and James Arnott for their valuable contributions on this interesting subject. If the annals of surgery were carefully searched, we suspect that the mortality arising from the operation of lithotomy would be frightfully great, much more so than has hitherto been suspected. From accounts collected by Dr. Willis, and mentioned by Dr. Arnott, it seems that the mortality after 40 years of age is "certainly not less than one in four"; and although we cannot look upon the success of French surgeons as to be compared with that of the British, the following statement of Velpeau merits attention, not only from its importance, but also on account of the superior character of the surgeon who makes it. "In a grand total of 1,003 patients who have come under the hands of lithotomists, 616 only have been delivered of their calculi, and 387 have died or have not been relieved." It is said that the success of Mr. Martineau was very great, and that no selection of patients was made; whereas we are informed by a witness that "he carefully selected his patients." But in the midst of much difference of opinion, every practical surgeon is convinced that it is at least one of the most dangerous operations, especially in people advanced in life; and that if a safer mode of extracting the stone could be devised, it would be a very important improvement.]

The present most approved operation of lithotomy, although still called the lateral operation, approaches more nearly, in all essential particulars, the old proceeding by the apparatus major. The main distinction between the two methods does not consist in the number or form of instruments employed, but in the purpose they are calculated to accomplish. The great object is to make a sufficient opening in the bladder, and this may be done either by cutting or by quick dilatation. Whether the sudden distention and laceration are made by a steel dilator, by a blunt gorget or wedge, by the finger, or by the forceps singly or while grasping the stone, is really a very immaterial circumstance. There is, indeed, a small incision made in the present operation, previously to the stretching, which determines the direction of the laceration, just as a notch is made in a piece of cloth previously to tearing it; but so was there also, latterly, in the Marian operation, under the name of the "*coup de maitre.*" By some operators this incision was not carried farther than the prostate gland (Bromfield cut the fore part of it), while others extended it along the whole of the prostatic urethra. The operation of lithotomy must, at any rate, be acknowledged to have retrogaded to its state of transition between the old and new methods, and this has, perhaps, been wisely done; for it may be better that it should partake slightly of the evils of both than exclusively possess that of either in a great degree.

Can stone be removed without violence, infiltration of urine, injury to the coats of the bladder, hæmorrhage, exhaustion from long-continued and severe pain, or other causes of death from the operations now and heretofore practised? It can be so removed. And this may be effected by really doing that which the operators by the apparatus major only professed to accomplish, namely by dilating the neck of the bladder and contiguous part of the urethra. But this must be done in a very different manner from that which they adopted. Instead of the dilatation being quick, and consequently painful, it must be slow and unattended with pain; and to accompiish this a very different means must be employed from any which they employed. Such dilatation cannot be made unless the pressure by which it is effected be perfectly equal, or applied to every part

of the surface; unless it be of a continued nature, as from elasticity, and unless it be in the power of the surgeon or the patient himself to increase or diminish it immediately, and without irritation, according as the feelings of the patient or other circumstances may require. This combination of desirable ends cannot be obtained otherwise than by a dilator constructed on the principle of fluid pressure. *Lancet, July 29, 1843, p. 610.*

The fluid-pressure dilator, in its present perfect state, is an instrument which, with respect to the number and importance of its applications to surgery, is only second in value to the knife. Wheresoever the indication is to remove constriction from any of the larger canals of the body which can be reached by an instrument; or completely to fill their cavity, as for the suppression of hæmorrhage; or to increase their natural diameter, as for the passage of large bodies through them—there the fluid dilator comes into use, and far excels, both as to certainty and quickness of operation, the various means hitherto employed to answer the same purposes. Appropriate forms of the instrument are, of course, required for its different uses, and no little pains have been taken in devising these.

The opening in the perineum in lithectasy does not require to be larger than is necessary for passing the empty and condensed dilator into the membranous part of the urethra. The outward parts will yield to fluid pressure at least as easily as the neck of the bladder; and any advantage that might be gained in removing the depth of the perineum by a large incision, is more than counterbalanced by the suffering it would occasion, the risk of hæmorrhage, and the period that would elapse before the recovery is complete. If difficulty should be experienced in extracting the stone through the outer parts, it would be time enough to remove this opposition by the knife when it occurs. Nor does the ease of making an opening into the urethra require a large incision; but if any difficulty were apprehended here, it could be obviated by the use of the double staff recommended by Sir James Earle, and extensively employed in France by M. Guerin. The introduction of the dilator might be facilitated by passing the canula forming its axis over a long ball-pointed wire previously introduced along the groove of the staff into the bladder. If the ball at the extremity of this wire were made of sealing-wax, it could be then broken off, and the wire extracted.

In these remarks upon the mode of opening the urethra, an opinion is expressed with reluctance, different from that of the distinguished professor of surgery at King's College, as it may be inferred from his late operation. But Mr. Fergusson's great success as a lithotomist, while it gives weight to his observations on every question connected with the extraction of stone, may, perhaps, bias him in favour of certain practices which, however excellent they may be as respects lithotomy, are not so applicable to the new operation. An important question respecting the dilatation is the time it should occupy. That it should not be so rapid as to produce pain or severe irritation is an indispensable condition of the process; and much must depend upon the age of the patient, the hardness of the parts to be dilated, their irritability, &c. There would, I conceive, be less risk from prolonging this to too great an extent, than from the contrary extreme. In the instances where the urinary organs have been relieved of stone by a natural process, the dilatation has been very slow. In the original operation, more than four-and-twenty hours elapsed between the introduction of the dilator and the extraction of the stone through an opening of very moderate size, although, during this time, there was a considerable interval in the dilatation. Whether there should not always be some temporary cessations of distention, and whether the operation may not, with advantage, still more nearly resemble those spontaneous efforts of nature in which the parts are gradually adapted to the increasing distention, are questions which can only be determined by further experience. As bearing upon this, a remarkable case, related by Le Dran, may be adverted to. He kept open a large wound in the perineum, after lithotomy, for seven weeks, without injury to the patient, at the end of which he extracted a stone that had been confined in the ureter, and could not be sooner removed.

Another point to be ascertained is the degree to which the neck of the bladder can be safely and slowly distended without injury of its power of retention. In the successful and very interesting case of lithectasy, related in the "Edinburgh Medical Journal" for January last, by Mr. Elliot, of Carlisle, it is stated, that on withdrawing the dilator (although a very badly constructed one had been sent to the operator) "two fingers could be introduced into the bladder with the greatest ease along with the scoop," and that a stone, of the size of a hen's egg, might have been easily extracted. The extraordinary extent to which dilatation of the female urethra has been carried both by the slow efforts of nature and the quicker measures of art, imperfect as these have hitherto been, without injury, would remove any apprehension of such loss of power under ordinary circumstances. The enclosure of the commencement of the male urethra by the prostate gland would probably tend to restore it to its natural condition in this respect. But with so great a variety of excellent stone-breakers as have been introduced and revived by the lithotritists, and with so wide and short a channel through which to apply them, there would be no necessity, in the case of a large stone, for dilating to a very great extent. The lithotrite employed by M. Amussat, consisting of blades enclosing the stone, drawn within a tube by the force of a screw, and thus breaking the stone against the end of the tube, would be a convenient means, because when the fracture of the stone was unnecessary, the instrument would answer as a forceps, and is, indeed, only a modification of that called Hunter's forceps. With such an instrument there would be no temptation to use force in the extraction, than which nothing can be more opposed to the principles of this operation. If a stone be discovered to be larger than what the opening which has been made will allow easily to pass, it must either be broken, or the dilatation, with or without an interval, must be resumed. It would be much safer to cut the distended prostate, on the finger introduced as a director, and so to enlarge the opening, than to use force. If a mere notch be thus made, the opposing substance will give way by tearing; but from this there will be less danger than from bruising. In a case operated upon in the new way by Dr. Wright, it was found advisable to go through both stages of the operation; after dilating to a certain extent, he broke the stone, and extracted it piecemeal. And although the case is represented as having been one very unfavourable for any operation, it nevertheless proved perfectly successful.

If the distention be steadily maintained, there will be little danger of the instrument slipping out of the bladder, but this can always be guarded against by a proper bandage. The distention will be of a continued description, if air constitutes part of the injected fluid; or in some cases it might answer to make distention by the weight of a column of liquid. A current of cold or hot water might be applied in this manner as explained in my recent paper in "The Lancet," upon strangulated hernia. In applying the dilator, for the suppression of hæmorrhage in any cavity or canal, the distending of it thus with very cold water would materially assist its remedial power. Instead of two or three distensible membranous tubes of different sizes, tied upon different catheters, or upon the same in succession as they were wanted, they may be all tied at first on the same, each having its own injection-tube. It is highly important to avoid unnecessary irritation from the passing and repassing of instruments. Yet when the neck of the bladder is sufficiently opened to admit the forefinger, it will generally be proper to introduce this in order to ascertain the size of the stone and other important circumstances. The dilatation may be facilitated in many cases by the adoption of similar means to those employed by the accoucheur for diminishing rigidity and irritability in parts under this process. In the original case the operation of lithotomy had been performed some nine months previously, which had the effect, probably (and this I find by a marginal note in the account of the case was the opinion, also, of Sir Astley Cooper), of rendering the prostate gland harder and more unyielding. Great irritability of the parts, resisting the remedial influence of wearing a catheter and other usual methods, would be an objection to the adoption of this operation.

In some cases it might be advisable for other purposes as well as the removal

of irritability, not only to accustom the parts to the presence of instruments, but to dilate the posterior part of the urethra by an instrument passed along the whole canal, having, like the stricture-dilator, a distensible tube of a few inches in length. The irritability of the parts, however, which might oppose the continuance of instruments occupying the whole canal, would, of course, be much less were only the last two inches of it so occupied; consequently the introduction of instruments in the ordinary way would hardly be a sufficient criterion. If the dilator be kept constantly distended to the degree which the patient can bear, and care be taken that the urine has an unimpeded passage through the hollow axis of the instrument, no increase of irritation can arise from the action of the urine on the wound; and, as has been remarked by Dr. Willis, before the dilator is again withdrawn, the cut surface will have acquired a coating of coagulable lymph to protect it from infiltration.

As the urinary bladder has been cut in different parts for the extraction of stone, so may it be dilated in different parts. The principle objection to the operation of lithotomy above the pubes has been the risk of fatal inflammation from the infiltration of urine; but with the fluid dilator, acting as has just been explained, and the use of the syphon catheter (originally recommended in my tract upon stone, and since adopted in France), this objection would be removed. Where there is much disease of the prostate gland its dilatation would be injurious, though, from the equal action of fluid pressure, not to the same degree as its incision in lithotomy. The fundus of the urinary bladder is probably as dilatable as any texture in the human body. Even after the operation of lithectasy has been commenced, should any circumstance occur preventing its being completed, no harm can ensue to the patient; on the contrary, by the opening in the perineum allowing a short catheter to be easily introduced and retained, the excessive irritability which might cause such a result, and which might render other operations unsuccessful, would be more certainly reduced than by any other measure; and, as respects the unpractised surgeon, the operation of lithotomy (in the event of this being determined upon), would be thus divided into two distinct stages, with an interval well calculated to insure or restore his composure; for how often does it happen that a greater difficulty than was anticipated in making the opening into the urethra discomposes the operator, and seriously and injuriously influences the more important remainder of his proceedings. If the dilatation be carried so far as to admit the finger into the bladder a still greater advantage of the same kind is obtained; for could the finger be used as a director, the most inexpert surgeon must succeed in terminating the operation of lithotomy in the best way its nature admits. Would not, in fact, such a combination of dilatation and cutting be a safer mode of extracting stone than the operation in present use? The slightest notch of the now thin and extended prostate (made by a very narrow knife, prevented from cutting beyond a certain definite extent, by being kept close to the finger, or even fixed to it), would be sufficient to make what remained of it give way, and so remove all difficulty, for the membranous part of the bladder would yield with ease to the required extent. But a slight incision or notch of any point impeding the dilatation, and this discovered by the finger, might be sufficient to allow of the slow dilatation being resumed and accomplishing all that was required.

In closing these remarks on lithectasy, I will take the opportunity of stating, that I shall deem it an honour to be referred to by any of my professional brethren who may have difficulty in procuring the necessary apparatus, or in understanding this imperfect description of the mode of using it.

Lancet, Aug. 5, 1843, *p.* 650.

[As in some measure connected with this subject, we will add some valuable remarks by Mr. Sherwin, of Hull, on the treatment which is occasionally required after lithotomy, and particularly alluded to by Sir Benj. Brodie in his "Lectures on the Diseases of the Urinary Organs." These remarks were called forth by a case on which Mr. Sherwin operated, a child of nine years, the day following a journey of seventy miles; and although the

operation was satisfactorily performed, the case soon assumed a dangerous aspect. On the second day, Mr. Sherwin says—]

I now felt convinced that I should lose him; as, from the very onset of the attack, the vital powers seemed unable to sustain any depleting measures, and though having most of the characters of peritonitis, the symptoms precluded the antiphlogistic treatment. On referring the same evening to Sir B. Brodie's published "Lectures," I felt impressed with the fidelity of his description of the untoward symptoms following lithotomy. I caught at a suggestion he offers in a similar case, which he rescued by laying open the rectum with the wound, so as to give exit to a quantity of sanies: and I will take upon me here to remark, that the work alluded to, though offered to the profession in the simplest and most unostentatious style, is replete with the soundest principles of practice, and is a most excellent guide. But to return to my narrative.

11th, 7 A. M.—Found matters looking still worse; the boy had passed a wretched night, rolling from side to side in great pain; the belly hard and tympanitic; pulse feeble and fluttering, and hardly to be felt or counted, with more frequent intermissions; countenance of dusky leaden hue; occasional sighs and hiccoughs; tongue quite brown and dry. I now determined to open the wound, which was externally united: this was done with the handle of a scalpel, and having pushed up my finger to explore the parts, I gave exit to about two or three ounces of a pink-coloured sanies, having a fœtid and ammoniacal odour. I was glad to find the opening in the bladder small and neatly contracted, with a well-defined margin, and scarcely admitting the tip of a finger. I broke up the entire wound in the perineum, and had the patient raised out of the hollow of his bed into a more depending position; gave a little brandy and water with a tea spoonful of castor oil. 11 A. M.—Much improved in every respect; countenance calm; had slept a little, and parted with a good deal of flatus; the pulse settled to 100. 9 P. M.—Has slept well; looks happy; pulse slower; tongue moist; has asked for tea, and bread and butter. From this time the boy did well, and he returned to his home quite free from ailment in about three weeks after.

Remarks.—The urine was alkaline, with considerable deposit of lime and mucus; this (which ought to have been done before) was afterwards corrected by mineral acids, with Decoct. Pareiræ Bravæ, and quinine. If, instead of giving a free vent to the sanies, I had treated the case as one of pure peritonitis, there can be no doubt but that he would have sunk in a few hours. Yet I committed an error in the first instance by operating so soon after a long journey. I relied too confidently on the youthfulness of the patient; time ought to have been allowed for the bladder and constitution to become tranquil before he incurred the additional risk of a formidable operation. Again, his bed was an inconvenient one; it allowed his pelvis to sink into a hollow, which, with my neglecting to leave a canula in the wound, allowed some of the urine to lodge between the rectum and bladder; a circumstance that has proved, probably, a more frequent source of mischief after lithotomy than is generally suspected.

Medical Gazette, Sept. 1, 1843, *p.* 801.

65.—OVARIAN TUMOURS.—By ALEXANDER KILGOUR, M.D., Physician to the Aberdeen Infirmary.

[At the present time, when the removal of encysted dropsical ovaria has been frequently had recourse to, and when some degree of discredit may attach to its too indiscriminate adoption, we are glad to place before our readers any practical hints which may assist them in arriving at an accurate diagnosis. It has occasionally happened that solid growths or tumours of the ovaries, whether of a malignant or non-malignant character, are attended with an effusion into the peritoneum, or an ascites, and may thus be mistaken for the more usual form of the ovarian disease, viz., the encysted dropsy. Dr. Kilgour furnishes us with some valuable hints on the diagnosis of these affections.]

The non-malignant solid enlargement or tumour of the ovary, and which sometimes attains a very great size, is, generally speaking, of the same charac-

ter as the fibrous tumour of the uterus, and unless improperly interfered with, may exist for many years, without giving more disturbance than is occasioned by its bulk. The malignant disease is similar to that met with in the mamma, and sometimes is of the hard form; in other cases it presents the characters of soft scirrhus, or encephaloid disease. The non-malignant disease is not attended with pain—the malignant one is so generally, but not always. The latter is almost invariably attended with much constitutional disturbance; it is much more rapid in its course; and, whilst it indicates almost its nature by this quickness in its fatal pace, it frequently still further demonstrates itself by attacking the mammæ, the uterus, or the pylorus.

The fibrous and the scirrhous tumours, when felt through the abdominal wall, are smooth or rough, or knobbed or tuberose, on the surface; and no diagnosis of the two diseases can be made by this means; but the semi-solid or gelatinous cyst is almost always smooth, and invariably, to a practised hand, gives more a feeling of elasticity than solidity, whilst traces of fluid, perhaps faint, will be discovered in partial spots of the abdomen, viz., in some of the other cysts. The semi-solid or gelatiniform and elastic cyst is always fixed, but the solid tumour is often moveable, and, when attended with effusion, it moves about, by slight pressure in the fluid.

Now, are there any accurate means of distinguishing solid ovarian disease with ascites, from encysted dropsy of the ovarium? But, first, how is encysted dropsy itself known from ascites? Cruveilhier, in his early and small pathological manual, says:—"On n'a pas toujours de signes positifs pour distinguer l'hydropisie ascite de l'enkystee, lorsmeme qu'apres la ponction on a ete temoin des progres de la maladie." But, in his later and more splendid work, he has got new light on this point, and putting the question—"by what signs can we establish a diagnostic betwixt these two diseases, a diagnostic not only interesting theoretically and as a perfecting of science, but in a practical view," he proceeds to furnish us with two:—1st. In ascites the liquid always occupies the most dependent parts, viz., the pelvis and lumbar region; whilst the small intestines, floating in the fluid, correspond to the umbilical region, according to the observation of Frank; and the arch of the colon and the stomach occupy the epigastrium. Percussion, therefore, with the fingers on the abdomen, or, better still, the ivory plate of Piorry, elicits a dull sound over the hypogastric and lumbar regions, changing somewhat its character, according as, in different positions of the body, the fluid is made to change its place, but a clear one in the umbilical and epigastric regions; whereas, in encysted dropsy, the cyst developes itself anteriorly to the intestines which it pushes back; so that, in no possible case, and in no degree, can the tympanitic sound exist. This observation belongs to M. Rostan. Add to this, that the fluctuation is more decided in ascites than in encysted ovarian dropsy; that, according to the researches of M. Piorry, the sound over the cyst is much more dull, and that by means of percussion, mediate or immediate, the percussion may be carried to the point of distinguishing, in cases of complication, what belongs to the cyst, from what belongs to the ascites. 2d. In ascites we find the neck of the uterus in its proper place; in encysted ovarian dropsy the uterus is not forced downwards, as is generally said, but, on the contrary, is drawn upwards, so that it is impossible to reach it; whilst also, in this latter case, the pelvic cavity is filled by a portion of abdominal tumour. In addition to these positive signs, it may be stated, that encysted dropsy often exists with a good state of general health, whereas the reverse is the case in ascites; and that the latter has generally anasarca of the lower extremities along with it, whilst the former has not." (Ve. Liv. l. iii. p. 3)

Such are the pathognomonic signs according to Cruveilhier; and without yielding the exclusive merit of the first to Rostan, it must be granted it is one which will very seldom fail. There is just one case, and only one, where it may mislead, and that is, where chronic disease of the peritoneal coat of the testines has been followed by matting together of these, and adhesion to the osterior part of the abdomen, in which case they do not float on the surface the fluid, so often effused ultimately in such cases. In regard also to the

distinctness of the fluctuation in the two diseases, the observer will find that in ascites the fluctuation is distinct from one lumbar region to the other, whereas it is not felt in ovarian dropsy at this part, more especially when the patient stands erect, but otherwise, in many cases of the encysted dropsy, the fluctuation is fully as distinct as in ascites. In those cases of complication of encysted ovarian dropsy with ascites, to which it is presumed the researches of Piorry refer, it is not so much by percussion, as by manipulation, that the diagnosis is made out; for by pushing our fingers through, as it were, the fluid of ascites—and which in these cases exists only in a moderately thin layer anteriorly—we can distinguish the more confined fluid of the cyst. And amongst the positive signs, Cruveilhier has omitted one of no little value—the form of the swelling (to ascertain which accurately, it is necessary to observe the abdomen of the patient both recumbent and erect), for in most cases of the single large cyst (and that is almost the only case where any difficulty exists), a peculiarly rounded appearance anteriorly may be observed, and a practised eye will also detect more or less of a sulcus between the swelling and epigastric region. The position of the uterus is not to be relied on; but the good state of the general health, and the absence of anasarca are worth observing, for in ovarian disease the latter seldom occurs. In the most extensive of that kind I ever witnessed, where the abdomen, measuring seven feet in circumference, reached almost to the ground, and where, from the elevation, at the same time, of the chest, and in which the neck had almost disappeared, the figure of the poor woman was like that of a tortoise laid on its back: there was no anasarca of the legs.

But there is another sign which is only furnished by paracentesis—the character, physical and chemical, of the fluid drawn off. In most cases of encysted ovarian dropsy the fluid is thicker than serum, flowing through the canula of the consistence of train oil, of a greenish or dark colour, and of a saponaceous feel. Sometimes it is grumous, like drained honey, or like jelly; or it assumes these characters as the sack becomes emptied. Nitric acid added to it produces a thick coagulum, and so also does boiling. When these characters are present there can be no doubt as to the nature of the dropsy. But have we never a fluid exactly similar to that of ascites in the unilocular or single cysted ovarian dropsy? It would be held as heterodox to affirm that we have not; and the induction that those numerous cases which we find on record of successive tappings of what were believed to be cysts, were in reality collections in the peritoneal cavity, would be held decided heresy; but nevertheless, the proofs that such clear serum was from a cyst, are by no means so numerous as the assertions to that effect. Of the case of that famous Dame Mary Page, who thought it necessary to have recorded on her tombstone, that—"In 67 months she had been tapped 66 times, and had taken away 240 gallons of water without ever repining at her loss or fearing the operation," we may reasonably entertain a doubt, seeing that her classical and accomplished medical attendant, Dr. Mead, was only of *opinion* it was ovarian. Dr. Barlow gives a case in the Transactions of the Provincial Medical and Surgical Association, vol. iv. p. 393, in which, at five different tappings, "a pale straw-coloured serum, such as is usual in ascites, was drawn off, and which, at the sixth operation, was found to be purulent. It was ascertained by dissection that there was one large cyst. In Mr. Ford's case, (Med. Communications, vol. ii.) where the patient was tapped 41 times, the fluid was also ascertained to have been secreted from one cyst, but the character of the fluid is not given. It will be found that in almost every encysted dropsy, the fluid, if clear at the first operation, and like that of ascites, becomes, after a few repetitions of the operation, purulent or thick. The chemical characters of morbid fluids in the human body do not as yet seem to have much engaged the attention of the profession. According to Dr. Marcet, there are 33 parts in the 1000 of solid matter in the fluid of ascites, and 80 in the 1000 of that of hydrocele, a difference which it is difficult to account for; but these must not be taken as absolute, for I have the notes of a case of ascites which occurred in the ward of my colleague, Dr. Dyce, where no albumen could be detected in the fluid by the usual tests. There is little doubt, it

will be found, that the fluid of encysted dropsy is always much more loaded with albumen than that of ascites, and this may be made a means of diagnosis of the two diseases.

How, then, are we to distinguish solid ovarian tumour with ascites, from encysted dropsy? It is not simply because we can feel a solid tumour in the seat of one or both ovaries, and fluid in the body, that we are to conclude the fluid is in the peritoneal sac; for we very frequently find in the multilocular ovarian disease, that some of the cysts are filled with semi-solid or fungoid substance, whilst the others are filled with fluid. There is a sign, which was very observable in both of the cases already given, and which may serve the purpose—the *mobility* of the tumour, for it moves up and down in the fluid, striking the finger exactly like the child in utero, in what is termed the *ballotement*. In consequence, also, of its moving through the fluid, it presents different parts of its surface to the hand of the examiner, and he is led thereby to the idea that there are several tumours—an error which is only corrected by examination after the fluid has been drawn off. In the encysted dropsy, the solid tumour, if there be any present, is fixed; it is often attached to the adjacent parts; but, whether this be so or not, it is *outside* the cyst or bag of water, or forms part of the *wall of the cyst*, and in either case, it cannot move in the fluid. Of course this sign is only available when the peritoneum is fully distended with serum. In addition, we have in such a case the tympanitic sound of the abdomen, and the broad belly, with bulging out flanks; but we must not expect these to be so decided as in ascites from other causes, for there will be dulness over the immediate seat of the tumours, and their presence will also give somewhat of a prominence to the abdomen.

London and Edinburgh Monthly Journal of Medical Science, June 1843, *p.* 528.

[We believe that the use of the *uterine sound*, or *bougie*, as described in a following article by Dr. Simpson, of Edinburgh, will be of essential service in the diagnosis of these and most other cases of ovarian, uterine, and pelvic tumours. We find Mr. Walne has operated successfully on two other cases of ovarian dropsy, but as they present no remarkably new feature, we will only refer the reader to the account of them. (See Medical Gazette, August 11, 1843, p. 699, and October 13, p. 47.)

Another case is published in the Medical Gazette, by Dr. Frederick Bird. It was a case of 17 years' duration, in which paracentesis had been performed ten times. The woman was 35 years of age. It will be seen that the operation differed from those performed by Dr. Clay and Mr. Walne, in the extent of the incision, and in emptying the cyst previous to extraction. There is much sound sense in Dr. Bird's observation, that although a small opening into the peritoneal cavity for the purpose of extracting an ovarian cyst is objectionable, yet that a too large one may be unnecessary when a smaller one is sufficient. Dr. Bird's practice, therefore, was to adopt a middle course; he made an incision of about four inches, and by emptying the sac with an elastic catheter, previous to its extraction, it was extracted with comparative ease. He relates the operation as follows:—]

June 26th.—In the presence of Dr. Hamilton Roe, Mr. B. Phillips, Dr. Andrews, Mr. Cantis, and Mr. Brown of Chelsea, the patient having been drawn down sufficiently low in the bed to admit of her legs hanging over its end, and thus rendering the abdominal walls more tense, I first made an exploratory incision a little below the umbilicus; a few careful strokes of the scalpel quickly laid open the peritoneal cavity sufficiently to allow of the introduction of the finger, which soon assured me of the non-existence of adhesions at that part. With a bistoury the incision was then enlarged to about *three and a half or four inches;* the blue cyst of the tumour immediately advanced, closing up the abdominal opening, and thus preventing the entrance into that cavity of the blood escaping from a few divided vessels. A few minutes were occupied in arresting the little hæmorrhage, during which it was observed that the position of the tumour was changed at each respiratory movement of the diaphragm, affording satisfactory evidence of the absence of extensive adhesions. The cyst

was next seized with a pronged forceps, constructed to grasp without contusing, an incision made into it, *an elastic tube introduced, and the greater portion of the fluid contents evacuated.* At each inspiration the cyst became protruded, and continued to escape until retarded for a moment by two very slight adhesions, which separated without difficulty, and the great bulk of the tumour was soon lying on the outside of the abdomen. The left hand was then introduced for the purpose of examining the pedicle, which, though thick from the increased development of the broad ligament, was quite free from morbid attachments of the viscera of the pelvis. The uterus was drawn as high up towards the incision as possible without producing pain, and a strong curved needle, fixed in a handle, and carrying a very stout silken ligature, was passed through the centre of the pedicle, then withdrawn, and the ligature tied on either side. A third ligature of equal strength was also made to encircle the entire stalk, just below the incision of the other two. Much pain was now complained of, and some tendency to faint; relief to the latter was quickly afforded by pressing upon the lower part of the chest and scrobiculus cordis, thus giving to the diaphragm a substituted support for the loss of that previously afforded by the tumour. The broad ligament was next divided by a probe-pointed knife; a second application of which cut through the fallopian tube, having not more than half an inch of the latter attached to the uterus. All the vessels being now seen to be secure, the uterus was replaced in its proper position, and the ends of the ligatures left hanging out from the lower margin of the incision. Before closing the wound I examined the opposite (left) ovary, which appeared healthy. The lips of the incision were then brought together by a few interrupted sutures, cold water dressing applied, and a flannel bandage lightly drawn around the abdomen.

[The case ultimately did well without much medicinal treatment except occasional doses of morphia and gentle aperients. From the previous operations of tapping it might have been supposed that adhesions would have resulted, more particularly at the spot where the trochar had been introduced; none, however, existed at that part, nor elsewhere to any extent.]

The fact of a patient having been previously tapped would, therefore, seem to offer no real objection to the performance of the operation of extirpation, and this being granted, the partial or complete emptying of the cyst may be employed for the purpose of affording an additional means of diagnosis in certain cases in which it is difficult to determine with sufficient accuracy the character of the tumour, or the presence and extent of peritoneal attachments. The diagnosis of adhesions is at all times difficult, and is commonly but little more than conjectural; the introduction of a trochar in doubtful cases, in order to lessen the distension of the abdominal walls, may, therefore, be received as a method of greatly facilitating an examination, and furnishing new and important data for arriving at a correct opinion. During the first two or three weeks after the last time of tapping it was by no means difficult to grasp the then flaccid abdominal walls, and cause them to glide with freedom over the surface of the ovarian mass; whilst at a later period the distension of the abdomen rendered such examination difficult and uncertain.

[Dr. Bird attributes his success to three circumstances. 1st. To the precaution of keeping up a proper temperature in the room. 2dly. To the after-treatment which partook more of a dietetic than medical character.]

Thirdly. To the form of operation adopted, which I believe to be that presenting all the chances of recovery the extirpation of the ovarium is calculated to afford. Hitherto I have but described the steps of the operation, and I would now venture to make a single remark on the cause which induced me apparently to profit so little by the recorded cases of Dr. Clay and Mr. Walne. It was, however, from their careful perusal, that I was led to arrive at a somewhat different conclusion from that expressed by those gentlemen. The cases of Dr. Clay, and still more his useful practical observations, have sufficiently demonstrated the amount of danger which attends the attempt to perform extraction through a very small opening: the truth of which I saw exemplified in a case that occurred some years ago, in which the failure of the operation and the death

of the patient (for failure in these cases seems to amount to death), were undoubtedly to be attributed to the smallness of the abdominal incision; a secondary cyst of inconsiderable size having formed the obstacle, and which could readily have been removed by a somewhat more capacious opening.

Whilst thus according to the disadvantages said to attach to the small abdominal incision, I cannot but believe that important objections apply with equal justice to the very large section, the chief of which undoubtedly is the question of necessity. Is an incision from pubes to ensiform cartilage, in cases in which the ovarian tumor is wholly or in part fluid, really required? There can, I conceive, be no valid objection to evacuating the liquid contents partially or entirely, and thus causing so great a reduction of bulk as to allow of the removal of the ovarium through an opening of less size than that constituting the *major* operation; for if an incision be made sufficiently large to admit of the cyst rising from out of the abdominal cavity without any forcible traction—if it also be sufficiently large to allow of the introduction of the hand of the operator into the abdomen, and thus enable him to apply with facility the necessary ligatures, or remove any abnormal attachments to the pelvic viscera—every end is answered, every indication fulfilled, and the making a large peritoneal section can confer no further benefit to the patient, unless the removal of an unpunctured cyst can be deemed such. It may be urged that a large incision into the peritoneum is less likely to be followed by inflammation than a smaller one, and this I am by no means disposed to deny; but were it proved, it would still be very questionable whether an operator would be justified in making an unnecessarily large incision solely with a view of enhancing the probabilities of ultimate success. I would not, however, dissent from the employment of a larger incision in cases in which the partially solid state of the tumour might prevent its sufficient reduction by puncture, but from the cases I have seen I am inclined to believe that it rarely happens that an ovarian tumour will not be found to be in part fluid, and, therefore, capable of being lessened in size by the introduction of the trochar. Many important points remain to be determined with regard to the relative value of the operation, and the number of the cases yet recorded have not been sufficient to decide whether the chances of success exceed the chances of the occurrence of disease in the remaining organ. The observations of Mr. B. Phillips tend to turn the scale of probabilities against the ultimate safety of the patient, and to show that disease in a less developed form commonly exists in the opposite ovary. *Med. Gaz. Aug.* 18, 1843, *p.* 732.

"In the British and Foreign Medical Review for October last, there is an article on this subject, which will tend in a great measure to correct any of the high expectations which either we or our readers might have entertained. Of course, in the opinion which we gave in our last volume, we were guided, in a great measure, by the favourable results of the different operations which were given by Dr. Clay. Since that time, however, an able writer in Dr. Forbes' Review has investigated the different cases which were referred to by Dr. Clay, and we will endeavour briefly to lay the results of his researches before our readers. It will be remembered that Dr. Clay's statistical account of cases in which dropsical or enlarged ovaria were extirpated by a large incision, was as follows:—L'Aumonier 1, Smith 1, Macdonald 3, Lizars 3, Clay 3, Walne 1; and that out of these only one was unsuccessful. The reviewer then contrasts the favourable appearance of this table of cases with another, in which he enumerates nineteen cases in which the ovaria were actually removed, and out of which six died. He then mentions other eight cases, where the abdomen was opened and no diseased ovaria found, or where the difficulties were insurmountable. Out of these eight cases three died; so that it appears that instead of the operation being successful in twelve out of thirteen cases, nine out of twenty-seven persons, or exactly one in three of those who submitted to it, died, and that five of the eighteen survivors had hazarded their lives to no purpose. The reviewer then examines the successful cases of Dr. Clay, and shows "that the laudatory terms in which he speaks of this operation are by no means borne out by fact." He then goes on to say—]

All must, we think, agree with us in the opinion that the mere announcement that these thirteen persons recovered from the operation would by no means suffice to enable us to estimate it aright. The sufferings endured during its performance, the pains of a protracted convalescence, and the imminent danger in which life was placed in some instances, ought all to be taken into account The suffering and the danger, too, in these cases, were neither few nor small.—Twice (in Mr. Lizars' patient and in one of those operated on by Dr. Macdowell) the patient was exposed to great danger from hæmorrhage. Dr. Ritter's patient nearly sank from the shock of the operation, and the violent fever which ensued well-nigh cost her her life. In Dr. Clay's first case, in Dr. A. G. Smith's case, and in that recorded by Mr. Walne, the symptoms were at one time of a very serious nature, though not such as to betoken immediate danger. We are not furnished with details of Dr. Clay's third successful case for the first three days after the operation, and unfortunately we do not know the history of the person whose case is related by Dr. Quittenbaum. In five cases (two of Dr. Macdowell's, one of Dr. Clay's, Dr. Rogers's, and Dr. Chrysmar's) the patients went on favourably from the beginning; but in Macdowell's and Rogers's cases there is a most blameworthy deficiency of information on all points relating to the patient's progress. In six out of the thirteen cases, then, there is evidence of the life of the patient having been placed in some degree of jeopardy, while in three only of those in which the patients are alleged to have recovered without any bad symptom, are we furnished with such details as we have a right to require? Moreover, Dr. Macdowell's first case, that of Dr. Chrysmar and of Dr. A. G. Smith, are the only ones in which a length of time had passed since the operation, sufficient to test the permanence of the cure, or to show that the other ovary did not become the subject of disease. In Mr. Lizars' patient it is expressly stated that at the time of the operation both ovaries were diseased, though only one was extirpated, and we have Dieffenbach's authority for the opinion that this would be the case in many instances. The appearance of the solid part of the ovary in the two successful cases by Dr. Clay, in which he has described the tumour, would lead to the apprehension that the disease in both instances partook of a malignant character, and that consequently no lasting benefit will result from the operation.

There are objections, however, to the operation far more conclusive than any which can be deduced from the inadequate nature of the testimony in its favour. Not only did six of the persons, whose ovaries were extirpated, die from the effects of the operation, but in eight instances, after the abdominal cavity had been laid open, the removal of the tumour was found impracticable, and the lives of three of these patients were sacrificed to the fruitless and ill-judged interference of the surgeon.

[The reviewer then notices these melancholy cases in detail, after which he says—]

It was our intention to have examined the comparative merits of other operative proceedings which have been at different times adopted for the cure of ovarian dropsy, but we have already exceeded our limits. The erroneous statements, however, by which Dr. Clay endeavours to bring the operation practised by Mr. Jeaffreson into disrepute are so remarkable that we cannot pass them by unnoticed. Not content with omitting all mention of the successful cases recorded by Mr. Gorham in the Lancet for October 1839, he asserts that Dr. Dohlhoff operated on three persons by the small incision, and that of these three two died, and in the third, who recovered, no tumour was found. Now we deny that in any of these three cases the operation was at all similar to that practised by Mr. Jeaffreson. In the first patient the incision was indeed originally only two inches long, and the tumour was punctured by a trochar. Its contents were found too viscid to flow through the canula; the incision was then very *considerably enlarged*, and the tumour laid open sufficiently for the operator to bale out its contents with a cup. After its bulk had been thus reduced, the tumour was removed. This patient died sixteen hours after the operation, and peritonitis, with effusion, were found, on a post mortem examination. The incision in the second case was sufficiently large for the bystanders

to perceive that the vessels of the omentum were morbidly dilated, that small white tumours of the size of a bean covered the surface both of the omentum and the peritoneum lining the abdominal walls. It likewise allowed them to see that the tumour had very intimate adhesion to deep-seated organs, on which account the attempt to extirpate it was discontinued, but eight hours afterward the patient died.

In the third case we are informed that after the abdominal cavity had been laid open, and the hand introduced into it in search of a tumour, none could be found; [nach eroffneter Uterleibshohle und nach dem Eingehen mit der Hand in dieselbe fand sich keine Spur einer Geschwulstvor.] This person continued in a dangerous condition for some days, but ultimately recovered. Now, on what principle these cases are classed among those operated on in the method practised by Mr. Jeaffreson, we are perfectly at a loss to conceive; for to our minds they far more closely resemble cases operated on by the large incision. It is not, however, our object to advocate the operation by the small incision, for our estimate of any such proceeding coincides exactly with that expressed by the late Dr. Hamilton, in his Practical Observations on Midwifery. We have merely sought to exhibit the real amount of danger which attends *one* of the operations that have been practised for the cure of ovarian dropsy, *one* which its advocate describes as yielding results far more favourable than those of amputation. Our readers may judge for themselves how far this statement is consonant with truth—to our thinking the facts need no comment. We earnestly hope that they will prevent the younger members of the profession from being dazzled by the *alleged* success of an operation, which though it may excite the astonishment of the vulgar, calls neither for the knowledge of the anatomist nor the skill of the surgeon.—*Brit. and For. Med. Rev., Oct.* 1843, *p.* 396.

[In the last number (No. 2) of Guy's Hospital Reports, Mr. Key reports a case of extirpation of an ovarian cyst. The operation was performed in the usual masterly style of Mr. Key, but the result was unfavourable. Mr. Key ends his report as follows—]

"In considering the causes that occasioned the unfavourable termination of this case, the age and temperament of the patient will be looked upon as the principal circumstances militating against a probability of success. The majority of recorded successful cases have been women past the period of child-bearing, in whom the sexual organs have lost their functional sensibility. This inactive condition of the organs must doubtless be a circumstance favourable to success; as, on the other hand, an extremely active and sensitive state of the uterus, in young persons, would increase the impression upon the nervous system occasioned by such an operation. The danger, however, lies not so much in the degree of nervous depression or nervous excitement, as in the extent, degree, and nature of the inflammation that follows. It does not appear, from the results of these operations, that much if any depression has been immediately caused by the large peritoneal incision. Hysteric excitement, or disturbance of the heart's action have not been remarkable; nor has there been any train of symptoms that could be specially referred to disturbed uterine functions. It seems rather to be a proneness to inflammation, almost irrespective of the condition of the sexual organs, that forms the great source of danger. I am not disposed to assert the entire independence of inflammatory action and nervous disturbance; as the latter unquestionably regulates the course and nature of the inflammation, though not giving rise to it, nor perhaps increasing its intensity. And in selecting cases for the operation, this distinction is not without its practical bearing; otherwise, all persons beyond the middle period of life would be excluded from it. The fitness of the patient for the operation should, I think, be determined, not alone by the active or dormant state of the sexual organs, but by the same rules as guide us in other diseases requiring operation. It is the disposition to unhealthy inflammation that disqualifies a subject for bearing a severe operation. This tendency, if combined with feebleness of constitution, is looked upon as likely to interfere with the due process of reparation. Youth is not the period at which such tendency exists in greatest force; and the process of resisting disease is certainly not less in the young than in elderly women. *Cæteris paribus*, if the constitution of the young ova-

man patient be unaffected by the disease, her nervous system tranquil, and the arterial action free from inflammatory tendency, I cannot see any objection to submitting such to the operation. The unsuccessful case of a young patient, published some time since by Mr. Phillips, in which the opened cyst was removed by the smaller icision, hardly bears upon the question. The issue of the present case does not dispose me hastily to pronounce the young to be unfitted for the operation; and should such prove to be the case, it must be by larger experience than we have at present.

Guy's Hospital Reports, No. 2, New Series, Oct. 1843, *p.* 486.

88.—NECROSIS.—By J. A. Lawrie, M. D., Prof. Sur., Anderson's Univ., Glasgow, &c.

In the treatment of extensive necrosis, two practical difficulties present themselves: first, in supporting the constitution, and preventing hectic; and second, in the very tedious process of production of new bone, and the ultimate cure, by discharge of the dead portion. The latter is known to consist in the deposit of new bone around the old and dead bone, encasing it, and subjecting it to the very doubtful process of absorption, or of separation, and escape, through the cloacæ in the new bone, and the ulcers in the soft parts. This process is so tedious as sometimes to occupy a lifetime, or to subject the patient to the very painful and uncertain operation of removing the dead bone, or even amputating the limb. So far as I know, no efficient means of meeting and overcoming these difficulties have yet been proposed. The two cases which I have related, show that in certain cases, and these the most severe, they may be obviated by the early removal of the dead bone, before it is encased or entangled in new bone. In neither of the cases was any incision required; in the first, on account of the extensive exposure of the bone; and in the second, from its being broken, and its extremity projecting through an opening in the soft parts. We cannot, however, expect to find all our cases so favourably circumstanced. In some, the first steps will consist in exposure of the dead bone, by extensive incisions; and the second, in removing the dead bone by the saw and forceps. I have at present, a case of necrosis of the tibia under treatment, in which these steps will require to be put in practice. (Since this paper was written the case has been operated on, and with complete success.) The advantages of the operation are too numerous and obvious to require to be detailed.

The physiological inferences which may be drawn from these cases, to my mind decide the question, as to the course from which bones are repaired, or regenerated after necrosis. The opinions on this subject were long divided between the periosteum and soft parts on the one hand, and the bone on the other. That bone, or at all events, calcareous matter, may be deposited in almost any organ or membrane of the body, is too well ascertained to make it improbable, that the same substance may be formed by the soft parts in the neighbourhood of bone, or by the periosteum, whose peculiar functions are to envelope and invigorate bone. That periosteum can form bone, I well know, having seen bone deposited on both its surfaces, and into its substance, in considerable quantity. But it is one thing to admit that the vessels of the periosteum may secrete or deposit speculæ of bone, and another, to subscribe to the doctrine that this membrane is the efficient agent in the production of the mass of ossific matter, necessary for the reunion of broken bones, or the reproduction of an entire bone with the exception of the epiphysis. Both of these processes I have long been convinced are performed by bone, and can only be effected through its agency. It is not my intention to speak of the union of fractures, that subject not being at present under consideration. I shall, therefore, limit myself to the second—a reproduction of new bone after necrosis; and, in the first place, it is worthy of remark, that those bones which have epiphysis are much more certainly and rapidly generated after necrosis, than the flat bones, and those which have no epiphysis. If a large portion of a cranial bone die and separate, it is frequently never restored; if it be renewed, it is by membrane in the first instance, and ultimately by the very slow transformation of that membrane into a thin plate of bone. I am not aware that the bones of the face, excepting, of course, the lower jaw, are ever restored. On the other hand, the facility with

which the cylindrical bones pour out osseous matter is well known. In the next place, if the epiphysis be removed with the body of the bone, no new bone will be formed. This is most frequently illustrated in the lower jaw, and phalanges of the fingers. In the remarkable case published by Mr. Perry (Med.-Chir. Trans. xxi. p. 90), of necrosis of the lower jaw, while the epiphyses preserved their vitality, a powerful effort was made to restore the dead part; but after the epiphyses died, the new bone died also: the whole came away and no further attempt to renew the bone appeared. Lastly, in the cases above related, and I believe that attentive observation will confirm the remark in all similar instances, the new bone was formed by the epiphyses. Where the old bone is extensively exposed, osseous matter is poured out by both epiphyses behind the dead bone, or behind that plane of the bone which is least exposed, and farthest from the surface; the new bone appears in the form of shoots or processes, which advance from both epiphyses, until they meet and coalesce. The deposition is continued from behind forward, until the integrity of the new bone is restored, and the old bone enveloped in it. It is in this way, and not by the deposit of bone on the surface of the periosteum, that the old bone is encased in new.

A question, at once of physiological and practical importance, here suggests itself: What part does the dead bone play in this process? Does it act as a stimulant to the deposit of ossific matter? Does it serve as a mould for the new bone? If it were removed, would the process be arrested? In all of these questions I would reply in the negative. I do not think that the presence of dead bone is more required to assist in any of the processes involved in the above queries, than the presence of a slough of the softer parts in the generation of new flexible tissues. When the entire thickness of a cylindrical bone dies, the first step towards regeneration consists in an attempt to get rid of the dead part, by the absorbents forming a groove round the dead portion, gradually cutting it through, and isolating it from the living. The next step, to a certain extent cotemporaneous with the first, is the deposit of new osseous matter, all around this groove, springing from the bone; the last is the surrounding of the old bone with new, in the manner already explained. The new bone begins to form before the old has separated, and continues after the connexion between the two has been quite dissolved. Currie's case appears to me to entitle us to answer the second and third queries in the negative; the old bone was removed long before the new was deposited; the process, so far from being thereby arrested, was greatly accelerated, and the form of the new bone was much more symmetrical than if it had been slowly deposited around the old as a mould. It may be asked, if this view of the matter be correct, why is it not thrown off as a slough of cellular tissue? I believe that the impediments to its escape are mechanical, and not physiological; the soft parts which cover it, the irregular line in which it dies, and the vitality of the cancellous structure next to the epiphysis, extending for some distance within the dead outer case, render its escape impossible, long after its presence has become a source of retarding, it may be, of fatal irritation.

How soon may the dead bone be removed by operation? The answer appears to be: As soon as the inflammatory stage has passed, suppuration been fairly established, and the constitutional symptoms will permit. The nature of the operation to be performed must depend on the extent of the disease. When the entire thickness is involved, the necrosed part should be exposed and a portion cut out, as in Currie's case, and occasional attempts made to extract the portions connected with the epiphyses. There is little risk in hurrying them away too soon, provided violence is not used in the attempt; they will become loose when the natural process of separation is complete, and then comparatively little force will be required for their extraction. When the surface of a bone only is exposed and necrosed, it seldom happens that the dead part is encased in a new bone. It generally scales off, and finds its way through the ulcer in the soft part, or through an abscess. Should the dead portion be extensive, and the position of the bone admit of it, it would save time to lay open the sinuses, expose the bone, and remove with a sharp chisel all the dead portion.

[These opinions of Dr. Lawrie are supported by four interesting cases. In

the first case, that of Jno. Gray, aged 13, the whole of the left superior maxilla was removed. After a severe attack of typhus, a slough showed itself at the left angle of the mouth, which gradually extended to as far back as the masseter, and included the gum and mucous membrane covering the maxillary bone, which was throughout necrosed. After the patient's health had been in some measure restored, Dr. Lawrie repeatedly laid hold of the dead bone with dressing forceps, and ultimately brought the whole portion away. The lower jaw became immovable, but this was in some measure remedied by division of the left masseter muscle, and the large opening in the cheek was filled up by making the edges raw and applying a portion of skin from the contiguous surface. The second case, John M'Rae, aged 10, was that of *necrosis of the shaft of the left tibia*, reaching nearly from epiphysis to epiphysis, the consequence of an acute attack of periostitis which commenced seven weeks since. Amputation above the knee was resorted to; and on examining the shaft of the bone, the case was quite dead from epiphysis to epiphysis, and the epiphyses at the knee and ankle had sent out processes on the posterior and external aspects of the bone about three-and-a-half inches in length, which, though still two inches apart, were obviously rapidly approaching each other. The periosteum was separated all around from the dead shaft, and, with the exception of a few deposits of bone from a few vessels which passed from the living cancelli to the surface of the periosteum, there was no appearance of formation of bone either on the surface of the periosteum or on that of the dead bone. Now although the unaided powers of nature could not have remedied this case, Dr. Lawrie thought that in a future case he should be warranted in attempting a cure by removing the whole dead portion of bone instead of resorting to amputation. This was successfully performed in the third and next case which he relates, in which the whole tibia except the epiphysis, was removed.]

Three months ago, this boy, William Ewing, aged 15, sprained his right leg, and induced extensive periostitis of the tibia. There is an opening six inches long, equi-distant from the knee and ankle, exposing the greater portion of the tibia on its anterior aspect. The probe, from any point of this large opening, can be passed round the bone. There is a good deal of thin discharge from the sore, the edges of which are raw, tender, and flabby, and towards its lower extremity have a firm gelatinous appearance. The general health is pretty good.

February 21.—Soon after admission, a chain saw was passed under the necrosed bone, near its centre, and the bone sawn from within outwards. The saw was a second time passed under the bone an inch nearer the ankle, and the intervening portion of bone cut and removed; the exposed ends were seized with dressing forceps, and endeavoured to be extracted, but without success. Similar attempts were repeated every second day for six or eight days, and both portions were removed. The operations gave very little pain, and were followed by very slight hæmorrhage. The portions of bone removed were 7¾ inches in length, and included the entire thickness of the bone, which was irregularly notched at both extremities; there was no deposit of bone on, or in the neighbourhood of, the exposed periosteum, which was changed from its natural appearance, and covered with flabby gelatinous granulations. The sore is rapidly contracting, and his general health improving. As yet there is no discoverable regeneration of bone. Sent to the country.

October 2, 1841.—I have frequently seen this boy since he left the hospital. How soon the tibia was regenerated I cannot say, but he was seen by my colleagues in the hospital in November, 1840—about ten months after the operation—and all of them were satisfied that the bone was then completely renovated. He called upon me to-day, when I took the following note:—"The integrity of the tibia is restored, by bone as firm, and nearly as large, as that of the opposite limb. The leg is very slightly bent outwards a little below the knee. Two sinuous openings still exist, one a little below, and the other a little above, the corresponding epiphysis of the tibia, at the bottom of which the probe discovers a small extent of diseased bone. He began to walk on crutches a few

weeks after he left the Infirmary, and for some months has walked assisted by a staff. He now walks well, with a very slight halt, and is able to undergo a great deal of fatigue.

[In the fourth case, that of Maggie Moore, aged six, the shaft of the humerus was necrosed, and was removed in somewhat a similar manner and with similar success.] *Lon. and Edin. Mon. J. of Med. Sci., Aug.* 1843, *p.* 679—685.

67.—PATHOLOGY AND TREATMENT OF DISEASES OF THE UTERUS.—By J. Y. Simpson, M.D., Prof. of Midwifery in the University of Edinburgh, &c.

[We have not space to notice the whole of Dr. Simpson's valuable contributions respecting uterine diagnosis, and must content ourselves by simply stating some of his several propositions, reserving what space we can afford to his remarks on the physical examination of the womb, and his *Uterine Sound, or Bougie.*]

First Proposition.—The general and local functional symptoms of disease of the uterus, are such as enable us to localize, without enabling us to specialize, the exact existing affection of the organ.

Second Proposition.—In almost all instances of diseases of the uterus it is only by the physical examination of the organ itself, that we can distinguish the precise nature of the existing affection, and fix its character, extent, &c.

Third Proposition.—The physical examination, as hitherto practised, seldom enables us to ascertain accurately, the organic condition of more than the cervix, and lower part of the body of the uterus.

If the uterus be large, and the woman of a spare and lax habit, we may indeed be able to feel the fundus of the organ through the walls of the abdomen, by the hands pressed in above the pubes. It generally, however, lies so low in the pelvis, and usually moves away so readily under the touch and pressure of the fingers, that, even in such persons, this means of examination is of no great avail. In all persons of an opposite habit, and in most cases where the uterus is misplaced without enlargement, the hypogastric examination is of little or no use whatever. By examination per vaginum with the finger, we can only (except when the uterus is prolapsed) feel the cervix, and the parts resting on the roof of the vagina. Hence, diseased states of the cervix having been far more easily ascertained than diseased states of the body and fundus of the organ, have, probably, been very much overrated, both in frequency and importance, at least since the speculum has come into more general use. In regard to the parts that are felt through the roof of the vagina, the touch alone does not, in many instances, give us information at all sufficiently satisfactory and decisive. We can, no doubt, when the tumour is large, often ascertain with considerable accuracy its size and form, by combining the vaginal examination with the aid derived from examination by the rectum, and above the pubes. But we are still, in many cases, left entirely in the dark as to whether the existing tumour is an enlargement of the whole mass of the uterus, or a distention of its cavity, or a morbid growth; and, if the latter, whether the growth is seated in the uterus itself, or in one of the ovaries or other neighbouring parts. If the tumour is small, and cannot be felt above the brim, we then have it not even in our power to ascertain its size and form, as we can examine it only on one side, namely, on that next the vagina. Under these circumstances we are unable to tell whether it arises from a new morbid structure attached to the uterine parietes, or from a simple displacement, or flexion of the fundus of the uterus itself. To meet these, and other difficulties in uterine diagnosis, I have for some time past been in the habit of using a metallic uterine sound, or bougie, of nearly the size and shape of a small male catheter, which, when introduced, as can easily be done, into the interior of the uterus, and manipulated there in different ways, has proved to me of great service in rendering the diagnosis of the diseases in question, and more particularly those of the *fundus*, *body*, and *cavity* of the organ (parts usually considered beyond the reach of examination), much more accurate and precise than can be effected by any other means with which I am acquainted. I am induced to bring this means before the notice of the profession, under the strong hope that the instrument will be found of equal service in the hands of

others; and the results which have been obtained by it seem already sufficient to enable us to place. among the generalities of uterine diagnosis, the following as a

Fourth Proposition.—It is possible, by the use of a uterine sound or bougie introduced into the uterine cavity, to ascertain the exact position and direction of the body and fundus of the organ—to bring these higher parts of the uterus, in most instances, within the reach of tactile examination, and to ascertain various important circumstances regarding the os, cavity, lining membrane, and walls of the viscus.—*Lond. and Edin. Jour. of Med. Science, June,* 1843, *p.* 550—556.

Description of the Uterine Sound.—The instrument which I employ is somewhat similar to a small male catheter. It is, moreover, provided, like the common male sound, with a flat handle, to facilitate its manipulation, and terminates at its other extremity in a rounded knob or bulb, to prevent injury to the uterine textures. The intervening stem tapers gradually from the handle to the knob, the thickest part being nearly one-fifth of an inch in diameter (equal to the size of a catheter No. 8), and the thinnest part about one-tenth of an inch (or equal to a catheter No. 3). The greater thickness of the attached extremity is necessary to give that portion of the instrument the requisite degree of strength and resistance; it is more slender towards its other extremity, to allow of its easily entering into, and being moved in the orifice and canal of the uterus. The terminating bulb is about one-eighth of an inch in diameter. The stem is about nine inches in length, and graduated so as to render its employment, and some of its indications with regard to the measurement of the uterus, more precise. Different modes may be had recourse to in marking it, but the marks, whatever they may be, must be such that they can be easily felt with the finger while the instrument is within the vagina. For this purpose they must be placed on the convex or posterior surface of the instrument, the surface, namely, with which the directing finger is in contact. The mode of graduation adopted in the instrument I have myself used, is as follows: At two inches and a half from the extremities of the instrument (this measurement being the usual length of the uterine cavity), there is placed a slight elevation or knob, which, in the employment of the bougie, at once serves to show that it is introduced to the full extent into the interior of the organ, and at the same time forms a fixed or standard point from which the instrument may be farther graduated towards either of its two extremities. This farther graduation is marked by shallow grooves, which may be placed at the distance of either half an inch or an inch from each other, and by their assistance, it becomes an easy matter to measure the exact length of the uterine cavity, when either it is diminished, or, as much more frequently happens, when it is prolonged to different degrees beyond its usual dimensions. The alternate groove may be double, to facilitate the measurement by the finger. The form of curvature at the extremity of the instrument is nearly that of a common catheter, and like it, begins about three or four inches from its point; but the degree and extent of this curvature require to be varied according to the necessities of individual cases, and according to the indications which it is wished to bring out. Hence the stem of the bougie requires to be formed of a metal that admits of being pretty freely and frequently bent without the risk of fracture, and at the same time is capable of adequately maintaining any form that may be temporarily given to it. These objects are fully attained when the stem is made of solid silver, but probably some composition of the inferior metals may also be found to have the necessary combination of pliability and strength. The handle of the bougie is made of wood or ivory, is about three inches long, three-fourths of an inch at its broadest part, and rather more than a quarter of an inch in thickness. The posterior surface of it is smooth, whilst its anterior surface, or that corresponding to the concave aspect of the bougie, is roughened, in order to make the operator constantly aware of the direction of the point of the instrument when it is hid in the uterine cavity—a circumstance which we shall afterwards see to be of great importance in reference to some of its diagnostic uses.

Mode of Introduction.—In introducing the bougie or sound into the uterine cavity, the patient may be placed either on her back or left side. If on her

back, the fore-finger of the right hand is introduced into the vagina, and its extremity brought in contact with the indentation formed in the cervix uteri by the os tincæ, so as to act as a guide to the point of the instrument. The instrument itself is held in the left hand, and its point slipped along the palmar surface of the finger in the vagina, and directed by it into the uterine orifice. If the patient is placed on her side, she must lie with her body directly across the bed —a position which facilitates greatly the manipulations required both for common tactile examination and for examination by the sound and speculum. In this case the fore-finger of the left hand is used as a guide to the os uteri, and the instrument is held in and directed by the right. In some instances where the parts are very lax, and the cervix uteri in any way displaced, the introduction of the bougie is facilitated by passing both the fore and middle fingers into the vagina, fixing the cervix with them in the axis of the passages, and gliding the instrument along the groove between the two up to the os. In whichever of these ways the sound is guided up to and passed within the os uteri, it generally afterwards glides easily, under a slight propulsive force, along the canal of the cervix and body, till (as shown by the elevated mark already alluded to as placed on the stem), its extremity has passed onward to the fundus of the organ. Sometimes the extremity of the instrument is slightly obstructed about an inch or less within the os tincæ, by the natural contraction existing there between the cavity of the cervix and the cavity of the body. This obstacle is easily overcome by a little additional impulse, or, if that fail, by slightly retracting and altering the direction of the point of the sound. The direction which the instrument should naturally follow in passing along the uterine canal, must always be held in view. In the normal condition of the parts, the uterus and vagina meet at a considerable angle, the former passing upwards and at the same time considerably forwards, and varying somewhat its inclination with the varying degrees of distension of the bladder and rectum. In using the bougie, therefore, supposing the organ to be in its natural position, its concavity should be directed forwards towards the walls of the abdomen; or, in other words, it should be passed in the same direction as in most other manipulations in this part of the body, namely, in the line of the axis of the brim of the pelvis.

The degree of uneasiness felt by the patient during the passage of the instrument, is in general very trifling, and not more, if so much as is felt on passing the catheter along the urethra of the female, and certainly not by any means nearly so great as in using the sound or bougie in the male. In a few cases, I have seen it, like the passing of the sound in the male, produce a feeling of sickness and nausea. In the healthy state, however, of the organ, the lining membrane of the uterus does not in fact appear to be more sensitive than that of the vagina, so that the existence of any true and actual pain in making the examination with the bougie, is to be considered so far abnormal, that it is generally, as we shall afterwards see, indicative of the existence of some morbid state of other of the part or parts with which the extremity of the instrument is at the time in contact. In the average run of cases, the introduction of the sound into the uterine cavity, is probably not more difficult to accomplish than the introduction of the catheter into the bladder of the female. The os uteri is in fact usually much more easily and certainly detected by the finger, than the orifice of the urethra; and generally the one and the other instrument passes readily along its appropriate canal after it has once entered it. If it is otherwise, the very difficulty may be in itself important, as marking the existence of some abnormal and probably diseased state. It is almost unnecessary to add, that the power of passing either instrument with perfect facility and certainty is only to be gained by a little perseverance in the practical employment of them.

The manner in which the instrument should be manipulated, after it is fully introduced into the uterine cavity, varies according to the object or objects which we wish to ascertain. The mode of using it with these views, will be best explained, by now pointing out individually, and at some length, the different diagnostic indications which it is capable of fulfilling. The uterine sound increases to a great degree our power of making a perfect and precise tactile examination of the fundus, body, and cervix of the uterus. I have already stated, that

the *body* and *fundus* of the uterus are so deeply included in the cavity of the pelvis, and at the same time are generally so mobile under the pressure of the fingers, whether applied to the organ from above or below, that it is difficult to ascertain any thing precise with regard to the condition of these parts, either by a common vaginal, or by a hypogastric examination. The obstacles which thus so effectually oppose an accurate and complete tactile investigation of the surfaces and walls of the body and fundus of the uterus, may be in most cases, in a great measure, overcome by the aid of the uterine sound, if we employ it for the double purpose—*first*, of giving sufficient *resistance* to the organ for its exploration by the fingers; and, *secondly*, of altering the *position* of its parts so as to bring them each successively within the reach of tactile examination.

When the pliable and mobile uterus is held steady by the sound being placed in its cavity, and the central axis of the organ is for the time being, thus rendered, as it were, *firm* and *solid*—the examination of its external surface, and of its walls, become a matter of far more certainty and accuracy than if we had the organ indefinitely yielding and receding before each slight touch of the fingers. But besides thus rendering the organ fixed and resistant for our examination, the uterine sound will, as a diagnostic means, be found of still greater use and importance, by the control which its presence in the uterine cavity gives us over the *position* of the whole organ, and by its enabling us to alter at will the situation of the viscus to such a degree, that we can in succession bring within the range of a tactile investigation, different parts of its external surface and parietes, that are generally considered to be entirely beyond our reach. In reference to this remark it must be specially kept in mind, that in the healthy state the uterus is so loosely fixed in its situation in the pelvic cavity, that its position is capable of being changed to a very considerable extent, without incommodity or injury, by such exterior influences as may naturally or accidentally act upon it. Its position is so far constantly changed by the varying states of distension of the bladder and rectum. Under voluntary efforts of straining, it can in general be readily pushed down half an inch or an inch in the cavity of the vagina. It may be drawn down by instruments till the cervix reach the external parts themselves, or even protrude beyond them—a circumstance which facilitates immensely the operation of excision of this part of the organ. In consequence of the same anatomical peculiarity, we are able, through the use of the uterine bougie, to move the organ upwards, forwards, &c., to such degrees as are requisite for a complete hypogastric examination, without in general causing any marked inconvenience or pain to the patient.

If, after the bougie is introduced into the uterine cavity, we carry the handle backwards towards the perineum, the upper extremity of the instrument—and, consequently, the fundus uteri placed upon that extremity—will be proportionally moved forwards into the hypogastric region. One hand placed above the pubes will now feel the fundus uteri with the central and thinnest part only of the abdominal parietes intervening between the fingers and the surface of the uterus. Provided the woman be not of a full habit, and the abdominal muscles sufficiently relaxed by position, we can now pretty accurately examine with the hand placed on the hypogastric region, the state of the uterus as it is held forwards on the end of the bougie, and we may always make ourselves still more certain of its condition by retracting and otherwise moving the handle of the instrument so as to bring the different parts of the superior and anterior surfaces of the uterine tumour under the touch of the fingers. By a slight turn of the instrument to either side, the lateral surfaces of the upper part of the viscus may, in the same way, be brought under our tactile examination; and in spare subjects, I have occasionally found it possible, when the fundus was pushed against the abdominal parietes, to extend the manual examination to some distance along the posterior wall of the organ. In those cases where this cannot be effected, the sound still enables us to make a more perfect tactile examination of this—the posterior part of the uterus—than we could otherwise effect, by giving us the power of temporarily depressing and reflecting its posterior wall, so that it may be felt by a rectal examination. The vaginal examination of the lower part

of its anterior surface may be in general rendered more complete, by a similar aid, from the instrument.

In these different steps of examination, the degree and accuracy of the information obtained is varied in different individuals by the differences which exist in the thickness of the tissues placed between the uterine surface and the fingers; but in most instances the presence of any marked irregularity in the uterine structures—such as the presence of one or more small fibrous tumours—their hypertrophic thickness, &c., may be readily made out; and, under still more favourable circumstances, the exact physical condition of the organ in relation to its volume and dimensions, the morbid tenderness of individual parts of it, &c., may be precisely determined. When we employ the sound for the purposes alluded to in the preceding sentences, namely, for enabling us to make hypogastric examinations of the fundus and body of the uterus, the instrument, before its introduction, should have its extremity bent upon its stem at as nearly a right angle as the conformation of the genital canals admit, and, after being introduced, its handle should be well retracted towards the perineum. By attending to these circumstances, the fundus and body of the uterus will be more easily and fully turned forwards, and our examination of them very much facilitated. The same object will also be much promoted by retaining the directing finger at the cervix during the course of the examination, both to steady the instrument and to serve as a fulcrum to it. In that case the handle may be retracted or pushed backwards to any required degree by the forearm, while the other hand is employed in the hypogastric examination.

The preceding remarks apply to the examination of the fundus and body of the uterus, parts which—unless when much enlarged, or the patient very thin—are generally looked upon as beyond reach of any physical diagnosis.

The physical state and relations of the *cervix uteri* are generally ascertainable by the finger alone. Still, in various morbid conditions of the cervix, our tactile examination of the organ may be much promoted by the assistance of the bougie introduced into the uterine cavity. For instance, in chronic enlargement, cauliflower excrescence, and other organic diseases of that part, it is sometimes a matter of moment, both as regards our prognosis and our treatment, to ascertain if the existing diseased state stretches upwards so far as to involve or not the lower portion of the body or the uterus. In several such cases I have found much assistance in determining this point by gently depressing the uterus by the bougie introduced into it, and having the power thus of examining the organ, immediately above the cervix, by compressing the structures of that part between a finger or two in the vagina, and the resistant sound placed in the uterine cavity, and consequently in the very axis of the viscus. In this way, each point in the circumference of this portion of the organ may be successively examined.

These observations apply generally to such indications as can be made out through the use of the bougie, when the uterus still retains that freedom of motion which we have seen it to possess, when it is itself in a healthy condition, and when there are no obstructions or impediments to its mobility in the surrounding parts. But there are cases where, from the organ having become more or less fixed and immobile, no advantage can be taken of those facilities which the power of partially displacing it in general allows us. In these instances, the very circumstance, however, of the mobility of the organ being lost, and still more the degree and extent of its immobility, often materially assists in pointing out the true nature of the affection that is present. Thus, in scirrhus of the cervix, the early immobility of that part, in consequence of the morbid degeneration invading the contiguous tissues from almost the very commencement of the disease, is often one of the first and best characteristics of that dreaded malady. In this instance, the fixed state of the cervix of the organ is detected by the direct application of the finger. In other states of disease, the cervix remaining comparatively free and unaffected, the body and fundus may be immobile from various pathological causes, as from morbid adhesions, the consequence of inflammation of its peritoneal surface, from the pressure of tumours or abscesses, &c. Or, again, both cervix and fundus may be immobile

at the same time, from general carcinoma of the organ, &c. In all these cases the immobility of the *body* and *fundus*, its degree, extent, and seat can only be discovered by the bougie; and its use, along with other considerations, may further lead us to detect the special pathological state that may be the cause of the morbid attachment or fixture of those parts of the organs.

[The previous introduction of the sound facilitates and simplifies the subsequent visual examination of the cervix uteri with the speculum. There is sometimes great difficulty in catching a good view through the speculum of some parts of the cervix uteri, as when the uterus is situated obliquely, or where the cervix is high up and displaced.]

After making such tactile examinations as may be required with the sound, leave it in the uterine cavity, and using it as a general guide, slip the uterine extremity of the speculum, whether tubular or bladed, over its handle and along its stem, till the instrument be fully introduced. The upper or uterine extremity of the speculum is thus guided with almost unerring certainty along the stem of the sound, till the cervix uteri is touched and included into its opening. Further, if we still keep the sound in the uterus, we have in it a means of turning the cervix to one or other side at will, so as to give ourselves a complete view of the mucous membrane covering the whole vaginal surface of this part of the organ. This last step in the examination is much facilitated by first drawing aside the stem of the bougie into the cleft between the two blades of the speculum—provided we are using a double-bladed instrument.

In making these remarks, I presuppose that the patient, during the employment of the sound and speculum, is placed upon the left side in bed, in the position already pointed out as most favourable for making a common tactile examination. By the use of the uterine sound we may, in many instances of pelvic and hypogastic or abdominal tumours, ascertain the connexion or non-connexion of these tumours with the uterus.

[And thus our prognosis may be considerably facilitated, enabling us, for example, to distinguish ovarian dropsy from enlargement of the uterus, from the presence of a large mass of fibrous tumours in its walls. When an enlarged mass exists in the neighbourhood of the womb, it is often exceedingly difficult to determine whether the uterus or ovary, or both, are diseased, but the bougie entering, as it were, more or less directly, into the very structure of the morbid mass, when connected with the womb, the tumour and the instrument reciprocally move in exact correspondence, and thus we are enabled to ascertain the exact relative situation of the diseased body. On the other hand, when the tumour is not uterine, the bougie enables us to know the exact relative situation between it and the womb in one of the three following ways:]

1. The uterus may be retained in its situation with the bougie, and then, by the assistance of the hand above the pubes, or by some fingers in the vagina, the tumour, if unattached to the uterine tissues, may be moved away from the fixed uterus. 2. The tumour being left in its situation, it may be possible to move away the uterus from it to such a degree as to show them to be unconnected; or, 3, Instead of keeping the uterus fixed, and moving the tumour, or fixing the tumour and moving the uterus, both may be moved simultaneously, the uterus by the bougie, and the tumour by the hand or fingers, to opposite sides of the pelvis, to such an extent as to give still more conclusive evidence of the same fact.

[These means, however, can only be valuable in diagnosis when the womb and pelvic, or hypogastric tumour are neither organically adherent to each other, nor so closely wedged together, as to render them mutually immovable.]

In one common set of cases, the knowledge of the exact situation of the uterine cavity, and hence of the uterus itself, in relation to the tumour that is present, even when both were immobile, has in repeated instances appeared to me especially important. The ovary normally lies behind the uterus, being attached to the *posterior* surface of the broad ligament. If, therefore, in a case of chronic tumour situated in the pelvis, the sound shows the tumour to lie on

the *anterior* surface of the uterus, or, in other words, if the uterine cavity runs up the posterior surface of the morbid mass, the disease may be considered as certainly not ovarian, and the further difficulties of the diagnosis will thus be so far very much simplified by way of exclusion. This remark particularly applies to those cases in which the tumour, of whatever nature it may be, is still not so large as to have passed out of the pelvic cavity and become abdominal.

Lond. and Edin. Mon. Jour. of Med. Science, Aug., 1843, *p.* 701—715.

[Dr. W. Cumming has published some interesting cases illustrative of the use of Dr. Simpson's instrument. The first was a case of retroflexion, in which the os uteri was found to be tilted very much forward under the pubes, and a firm tumour was felt between the vagina and rectum, which Dr. Simpson readily proved by means of his bougie to be the uterus itself.]

The uterus could be moved about at will; and according as it was moved from the posterior to the anterior region did the tumour appear or disappear. This was conclusive as to the tumour being either the fundus uteri, or one attached to it. By projecting the uterus anteriorly with the instrument, so as to make it come in contact with the parietes of the abdomen, the whole fundus was distinctly felt, its freedom from any attached tumour easily ascertained, and the blunt point of the bougie so accurately defined, as to satisfy us that that part of the womb preserved its normal thickness. No one who has not made use of this instrument can form any conception of the positive information afforded by it in such a case as that under relation. The nature of the disease being thus determined, the next object was to apply some means for retaining the uterus in its normal position. This was effected by the daily introduction of the uterine bougie, and its retention there by the patient for several hours. We are encouraged to adopt this plan by discovering, after one of our examinations with the bougie, that the fundus uteri did not retroflect for some time after the instrument was withdrawn. This plan was attempted and continued in operation for several days, but was so irksome to the patient, from the constrained position which she was required to maintain for several hours, and so injurious to the constitution from the weakness that confinement to bed necessarily infers, that it was abandoned, and in its place an utero-vaginal pessary substituted. It may be right to mention, that the bougie had not produced any good, permanent effect. Generally, as soon as it was withdrawn, the uterus retroflected as before—and therefore, when the pessary was introduced, the uterus was in as unfavourable a state as when its displacement was first discovered. The uterine pessary was allowed to remain for five weeks. The relief from the downbearing and other uneasy symptoms, was almost immediate. Formerly she was almost incapacitated from taking any exertion in the erect position. Within a week she walked from two to three miles with the greatest ease, and was entirely free from that mental oppression and disquietude under which patients suffering from the various forms of uterine disease so frequently labour. She never experienced the slightest difficulty in voiding urine or fæces—and was, to use her own expression, "quite a different person" from what she had been. The instrument occasioned no pain, nor was any other consequence observed from its use than a more than usually profuse flow of the menses. When the instrument was withdrawn from the cavity of the uterus, neither Dr. Simpson nor myself could detect any trace of the tumour—it had entirely disappeared. The uterus was still prolapsed, but the os uteri, though not precisely in its normal direction, was no longer tilted forwards. It occupied rather the middle of the vagina.

For some time after this the patient continued free from any uneasy symptoms. After a time, however, they returned *precisely in every respect as they were before*, somewhat, I must admit, to my discouragement, and I therefore concluded that the uterus had again become retroflected. So fully convinced was I of this, that *without examination*, I reported the case to Dr. Simpson and others as a failure, to my shame be it said. The symptoms, however, became so intolerable, and the patient's sense of the relief formerly experienced was so lively, that she again called on me for my opinion as to the propriety of renew-

ing the use of the instrument. This led me to institute a new examination, when to my great astonishment I found the os uteri much in the same position I had left it when the pessary was previously withdrawn, and could discover not the slightest trace of a tumour in the rectovaginal septum. There was anteriorly a fulness or bagginess of the vagina, apparently the result of relaxation, and there was also still prolapsus, but except these the finger could detect nothing else. I then introduced the bougie, and found it, after its point had passed the cervix and had reached the uterine cavity, turn, as it were, involuntarily to the right iliac region. On pushing it, so as to cause a slight degree of pain, the patient fixed on the right iliac region as the seat of the pain. By rotating the instrument I could also rotate the uterus: but when allowed to take up its own position (as it were), it returned to this region as naturally and immediately as on the previous occasion it had returned to the recto-vaginal septum. From this it appeared that the tendency of the uterus to become retroflected had been so completely surmounted by the former use of the pessary, as to resist the effect of motions which, before its employment, would unquestionably have thrown it back into its abnormal position—but that it was now in a position not cognisable by any of the common modes of examination, though thus productive of symptoms equally harrassing to the patient and perplexing to the practitioner. After repeating the experiment above referred to on two successive days, I introduced into the cavity of the uterus with very great difficulty, and after several unsuccessful efforts, another uterine pessary. This I did on the 22nd May. I saw the patient on the 23rd. She stated that during the afternoon of the previous day, she had felt a considerable degree of uneasiness, similar to what she usually feels before the occasion of the menses. In every other respect she was infinitely more comfortable than she had been before the insertion of the instrument.

29th May. I saw the patient to-day. She stated that the uneasiness or *soreness* (as she herself called it,) continued for three days after the instrument had been introduced, but was gradually diminishing. From every other source of uneasiness or discomfort of any kind she declared herself totally free. She had experienced a lightness of body and elasticity of mind which she had not enjoyed for many weeks, and was profuse in her expressions of gratitude for the benefit already received.

[The case continued to do well, and although the patient formerly felt it a burden to use any bodily exertion, she now felt a positive pleasure in exerting herself, and could walk two or three miles without fatigue. The second case related by Dr. Cumming, was one of displacement of the womb, attended by symptoms which made the diagnosis difficult till the uterine bougie was used. The patient, three months after labour, complained of down-bearing pain recurring at intervals. This could not at first be localized, but ultimately became more or less fixed in the left iliac region, and increased so as to be intense.]

Fearing that the uterus might be the seat of disease, I made an examination *per vaginum*, and discovered the uterus to be prolapsed, that portion of its body that could be reached by the finger hypertrophied, and *very* tender to the touch, and by the introduction of Dr. Simpson's uterine bougie, *that the pain which she complained of in the left iliac region was transferred from place to place, according as the uterus was moved by the instrument.* Of this latter fact, the patient herself became immediately conscious, very much to her surprise. She put her hand on the spot where the pain had been felt, pressed it hard, and exclaimed with considerable glee, "Doctor, it's away." By pressure on the right iliac region, however, I soon convinced her that it was not away, but had merely changed its position, and by a slight rotation of the instrument restored it to its original site. This I need scarcely say was to my own mind satisfactory and conclusive, but at the same time so little expected by me, that I repeated the experiment three or four times, and was each time made aware of the movements of the uterus, not more by the rotation of the instrument carrying an inertly resisting body at its extremity, than by the exclamations of the patient, that the pain was varying its position. Conceiving this to be a proper case for the employment

of Dr. Simpson's new silver pessary, I procured from him one of those which he submitted to the inspection of the society some months ago, and introduced it (not however without difficulty) on the 5th of May. *No sooner was it introduced than the pain ceased.* Whatever the explanation of this may be, the fact itself is unquestionable.

[On examination by the finger a fortnight afterwards, the os uteri had returned much more to its normal position and on inserting the bougie, the cavity of the womb was diminished in length, to the extent of half an inch. Dr. Cumming states—]

That the base of the instrument rested not on the perineum, but on the rectum, and that its probe (or that part which entered the uterus) was directed in the axis of the brim of the pelvis; that it did not change its position during the whole time it was worn; but that apparently its impaction in the mucous membrane, in juxtaposition with the rectum, as well as a tendency to constipation, for which the patient daily took some aperient medicine, occasioned that uneasiness which led me to withdraw the instrument.

London and Edin. Monthly Jour. of Med. Sci., Sept. 1843, *p.* 809.

68.—CURE OF ANEURISM BY COMPRESSION.—By O'B. Bellingham, M.D., Dublin.

[In Part 7, art. 89, we published two very interesting cases of politeal aneurism, cured by gradual and occasional compression, under the care of Drs. Cusack and Hutton, of Dublin. Another case of a similar description had been treated with equal success by Dr. Bellingham, which is published at length in the Dublin Journal of Medical Science for July, 1843. The case and mode of treatment are in most respects similar to those which we have already noticed, and we need not therefore take up the reader's attention by again going over the subject. We think the following observations however, by Dr. Bellingham, will be interesting to those who pay attention to these matters:]

When we look back, at the present day, to the surgical treatment of aneurism, and particularly of popliteal aneurism, previous to the introduction of the Hunterian operation, we can easily recognise the causes of the general failure of the treatment pursued; and we can have no difficulty in understanding why surgeons, such as Pott, recommended amputation in preference to the only operation then known, which consisted in laying open the tumour, searching for the vessel which supplied it, and tying both ends of it. We can also readily comprehend the cause of the unwillingness of the surgeons of that period to undertake such an operation, which could not fail of being exceedingly tedious, difficult, and sometimes impracticable, and in spontaneous aneurism must have been generally unsuccessful. These were the circumstances, in fact, which led surgeons originally to attempt the cure of aneurism by compression. Since the time of Hunter, however, the surgical treatment of aneurism has been so much simplified, that, as his views came to be generally adopted, and his mode of operation to be generally practised, pressure in the treatment of aneurism had but few advocates, and its application seems, with a few exceptions, to have been limited to cases, in which the patient, from timidity, or other cause, refused to submit to the operation of placing a ligature upon the vessel supplying the aneurismal tumour.

In the early application of compression in the treatment of aneurism, the pressure was applied immediately upon the tumour, and the entire limb was at the same time usually compressed by means of a bandage; the patient, in addition, was in general submitted to the medical treatment of aneurism known as Valsalva's; that is, perfect rest in the horizontal posture, very low diet, and frequent blood-letting. Guattani, a surgeon of Rome, in the last century, appears to have been one of the first who put this method into practice to any extent; he treated fifteen cases of popliteal aneurism by pressure, and was successful in four of them. Several of Guattani's cases have been referred to by John Bell in his valuable work on surgery. This treatment was, however, very tedious and painful, lasting many months, and when it failed (which it frequent-

ly did), was usually followed by unpleasant consequences, such as the more rapid increase of the aneurism, or its quicker progress to the surface. This method of applying compression has been in a great measure abandoned by surgeons in aneurism of the larger arteries. It is often, however, successfully applied to aneurism at the bend of the arm following blood-letting, and other forms of traumatic aneurism, as well as to aneurism of the smaller arteries, such as the temporal, radial, &c.

The application of pressure to the vessel between the aneurism and the heart, with the view of either completely or partially obstructing the passage of blood through it, appears to be a much more recent practice. In the second volume of the Dict. des Sciences Medicales, Richerand has related perhaps the earliest case of the kind: it was that of a grocer in Paris, the subject of popliteal aneurism, who, by preserving the recumbent posture for twelve months, restricting himself to a low diet, with a bleeding once a month, and at the same time compressing the artery in the thigh by means of an instrument constructed on the same principle as a truss, was perfectly cured. In the third volume of the Lecons Orales, two cases of popliteal aneurism are related, in which compression was successfully employed at the Hotel Dieu by Dupuytren; in one the pulsation ceased in about three weeks; the apparatus employed was a semicircle of steel, with a concave cushion at one extremity, and a pad at the other, capable of being moved by a spring and screw; it is commonly known as Dupuytren's compressor. Dupuytren had recourse to pressure only, because the patient refused to submit to operation. He never appears to have employed this method subsequently; indeed he looked upon these two successful cases as the result of some happy chance which might occur once or twice in the course of a long practice, rather than as the effect of a proceeding worthy of being adopted and recommended; it being well known that in several instances popliteal aneurism has undergone a spontaneous cure after the patient had been admitted into hospital for the purpose of undergoing operation. Two cases of this kind occurred some years since at the Meath hospital, where a bandage had been simply placed round the limb, which could have produced little or no pressure, and was not intended to act in that way. More recently another case occurred to Dr. Brunker in the Louth Infirmary, the details of which have been given in the Medical Press.

In the eighth volume of the Medical and Physical Journal, Sir Astley Cooper has described an instrument for compressing the femoral artery, which was employed in one case of popliteal aneurism by Sir William Blizard; although the patient possessed unusual fortitude, he was not able to bear the pressure longer than nine hours. A similar apparatus is mentioned by Sir Philip Crampton, in a communication contained in one of the early volumes of the Medico-Chirurgical Transactions, to have been tried in a case of popliteal aneurism, in which he afterwards assisted the late Mr. Dease to operate, but no force that could be borne was sufficient to stop the pulsation in the ham. Mr. Samuel Cooper has given a description of it in his Surgical Dictionary, and adds, that "few patients can endure the pressure of such instruments for a quarter of the time which Sir William Blizard's patient was able to bear it, when put on sufficiently tight to afford any chance of obliterating the artery; and on account of the suffering they occasion they are rarely used by modern surgeons."

A very ingenious instrument for compressing the femoral artery was subsequently invented by Mr. L'Estrange, and employed with success by Sir Philip Crampton and Mr. M. Collis at the Meath Hospital, in some cases where secondary hæmorrhage occurred after the operation of tying the femoral artery. The late Mr. Todd, some years ago, successfully applied compression (by an instrument different from any of those alluded to), in one case of popliteal aneurism; it was also used with success, though under most unfavourable circumstances, by Mr. M'Coy, in a case of femoral aneurism, which he brought before the Surgical Society at a late meeting. I am not aware that this instrument was subsequently tried.

No attempts to cure popliteal aneurism by pressure appear to have been made again, until Mr. Hutton was induced to revive the practice; indeed all the

modern works on surgery rather discourage any such attempts. This seems to have resulted partly from the imperfect construction of the instruments employed hitherto, partly from a mistaken theory respecting the mode in which pressure acted, or from ignorance of the exact amount of pressure required. Thus, surgical writers appear to have been under the impression, that in order to cure an aneurism by compressing the artery above the tumour, it was essential to interrupt completely the current of blood through the vessel; in fact, to apply such pressure as would act like a ligature, cause inflammation of the coats of the artery at the part, and obliterate the circulation in the vessel at the point to which compression had been applied. Thus, Mr. Gibson, of Philadelphia, in his work on surgery, observes, "compression is now rarely resorted to, experience having proved its general inefficacy. The process has been found, moreover, even when successful, so extremely painful and tedious that few patients can be induced to submit to it, or to persevere sufficiently long to accomplish a cure. That it operates, partly upon the principle of the ligature (when it does succeed), there can be no doubt; by compressing the sides of the vessel, causing the effusion of lymph, and finally, obliteration of the channel, so as to force the blood to abandon the sac, and pass off by the collateral branches." Mr. Guthrie, in his work, on aneurism, says, "the application of pressure by means of a spring pad, has been tried, and has sometimes, though very rarely, succeeded. The process is long and pain great, and there is danger of the part sloughing; the pain, indeed, is so great that few persons can be persuaded to submit to it; and those surgeons who have tried it once, will not again put it in competition with the operation. Mr. White, his colleague in the Westminster Hospital, employed it successfully in a case of popliteal aneurism in a female. The patient bore the pain heroically for five days, bu the parts compressed sloughed deeply." Mr. Guthrie adds, "that he watched the progress of the case with great attention, and that he would not be easily induced to employ Mr. White's instrument, or any other, for such a purpose."

When it was considered absolutely necessary for the success of compression, that such an amount of pressure should be applied as was almost certain to produce sloughing of the part, and very certain to occasion intense pain and suffering to the patient; and when, in addition, this was to be prolonged through five successive nights and days; we can readily understand why patients refused to submit to it; and we can easily account for the disrepute into which the practice fell; and for the unwillingness of surgeons to adopt this treatment, in preference to the simple operation of placing a ligature upon the femoral artery. It would, however, appear that it is not at all essential that the circulation through the vessel leading to the aneurism should be completely checked; it may, perhaps, be advantageous at first, for a short period, by which the collateral circulation will be more certainly established; but the result of this case, if it does no more, establishes the fact, that a partial current through an aneurismal sac will lead to the deposition of fibrine in its interior, and cause it to be filled and obstructed, so as no longer to permit of the passage of blood through it. Pressure, in order completely to obstruct the circulation in an artery, must necessarily be slower in curing an aneurism, as it must in some measure act, by causing obliteration of the vessel at the part to which the pressure has been applied; whereas a partial current through the sac enables the fibrine to be readily entangled in the parietes of the sac, in the first instance, and this goes on increasing until it becomes filled; the collateral branches having been previously enlarged, the circulation is readily carried on through them.

It appears to me that, in resorting to compression in popliteal aneurism, with the view of causing the sac to be filled up by fibrine, we should never neglect the necessary measures, known as Valsalva's plan of treatment, which alone have been sufficient to effect the cure of aneurisms of large size. In fact, I look upon bleeding and low diet as material aids in bringing about the cure by pressure. Bleeding will cause the blood to coagulate more rapidly, but it may be said that it will also have the effect of hurrying the circulation; we have, however, in digitalis, a very efficient means of diminishing the frequency of the action of the heart and arteries, and of quieting the circulation, when the patient

is kept in the horizontal posture; and if we take into account the condition of the vessels when the amount of the circulating fluid is diminished, we shall find that the sac of the aneurism is placed in a very favourable position for entangling the fibrine, which, if it continue to be deposited, will ultimately lead to the obliteration of the sac, and the cure of the aneurism.

The application of well regulated pressure, then, in the treatment of popliteal aneurism, combined with the other measures to which I have alluded, must be regarded as a considerable improvement in surgery; the operation of tying the femoral artery is perhaps the least successful of that on any of the larger arteries, "in consequence of secondary hæmorrhage on the one hand, and phlebitis on the other, so frequently resulting." And when, within a short period, three cases have occurred in succession in different hospitals, and under the care of different surgeons, it is not too much to expect (from the improvement which has been effected in the construction of an instrument for the purpose), that the necessity for performing this operation will, in future, be much diminished. This result, however must depend upon the trial of compression in a larger number of cases though its success in these offers great encouragement to surgeons to attempt it, inasmuch as the difficulties which hitherto surrounded it have been in a great measure overcome; and the correct theory of the mode of action of pressure, and of the amount of compression required for the success of its application, have been I think pretty nearly established.

Dublin Jour. of Med. Science, July 1843, *p.* 460.

[An interesting case of aneurism of the thigh is related by Mr. Liston, in which compression on the above principle was successful. See "Lancet," Oct. 28, 1843, p. 105.]

68.—VESICO-VAGINAL FISTULA.—By M. LALLEMAND, Prof. Clin. Med. at Montpelier.

[This is one of the most interesting papers which we have lately seen on the subject of vesico-vaginal fistula, and as it is from the pen of a truly practical surgeon, we way depend upon the modes of treatment being well adapted to the different kinds of fistulæ commonly met with. Almost all these kinds of fistulæ are caused by difficult parturition; and as we suspect that they are much more common on the continent than in Great Britain, so we suspect that they are too commonly produced by a too officious interference with the efforts of nature. These fistulæ are generally situated in the median line, and are frequently the results of circumscribed gangrene of the vesico-vaginal septum: they may occur, however, at any part where continued pressure or other injury may have been inflicted. In the cure of these cases, it is evident that the form and size will materially influence the kind of treatment to be adopted.]

It may be asked what size of the fistula ought to deter us from attempting the cure? It is impossible to fix on any particular limit; but we may say that *we ought always to be able to bring the edge of the fistula into complete contact, at least, for the greater part of their extent*, for though we cannot obtain a complete union on the first attempt, we increase the facility of treating the fistula by diminishing the extent of the opening.

The size of the fistula should, however, determine the particular mode of treatment to be employed. In all cases where the mere intumescence of the edges of the opening suffice to keep them together, we should content ourselves with simple cauterization. These fistulæ contract in proportion as the cicatrisation advances, owing to the interstitial absorption common to all newly formed tissues, and which is established for the purpose of consolidating and rendering them more compact. When this process, which occurs in all kinds of cicatrices at a particular period, has ended, the contraction of the opening remains stationary; but when the lips of the fistula came into contact, and are preserved from the action of the urine, they are no longer in a fit condition to unite, for they are hardened and incapable of undergoing any other change. When matters have reached this point they may continue so for the rest of life; no matter how small the opening be, it will not close, and will give rise to as much annoyance as when o larger size, for it allows quite enough of urine to flow through, to

excoriate the soft parts and to diffuse around the patient a disgusting stench. What ought we to do under such circumstances? To excite acute inflammation in the parts, so as to produce an adhesion of its surface by the exudation of an organizable plastic matter. Now, acute inflammation is always accompanied by turgescence; if, then, the opening be small, the mere swelling of the parts may be sufficient to close it. At this crisis, if the urine can escape more readily by another passage than through the fistula, the plastic lymph will have sufficient time to become organized, and the parts will be united ere the inflammatory action has ceased. All that is necessary, therefore, is to cauterize the parts and to introduce a catheter into the bladder, to effect a cure, provided the parts themselves are disposed to heal. Fistulæ of a large size can also be treated in this way, provided we allow a long interval between each operation, and do not leave the catheter too long in the bladder; for lying in bed weakens the patient, besides we ought always to give the parts time to contract to the fullest extent before proceeding to another operation. There is one other circumstance, besides the great extent of the fistula, which should dissuade us from applying even cauterization, viz., *our inability to excite a sufficiently active inflammation*, for if the parts be not disposed to unite, our attempts at cure will only weary out the patience of the sufferer, and bring surgery into disrepute; in short, the cure ought never to be attempted except in cases where the constitution is favourable, and where we can bring the sides of the fistula into contact, and are sure that the turgescence of the parts after the cauterization will be sufficient to keep them in apposition.

Duration.—If the means for approximating the parts were employed immediately on the sloughs falling out, it is more than probable that we should obtain the complete union of as much as could be brought together; but once the acute inflammation has ceased, it will be necessary to reproduce it by cauterization in order to perfect the cure; the farther from the period when the sloughs fell out the less chance of success. In every case in which I succeeded in rapidly effecting a cure, a year had not elapsed since the accouchement. The cicatrix should be always partly destroyed by the cauterization in order that union may be completed. The circumstances favourable for operation are, that the vesico-vaginal partition should be pretty thick, as also the edges of the fistula; the mucous membrane of the bladder and vagina healthy, and the urine free from any excess of salts or mucus. I have already said that small fistulæ may be cured by cauterization, a catheter being in the meantime retained in the bladder. We may also endeavour to cure those varying in size from four to five lines in diameter, allowing sufficient time to intervene between the periods of operation. It is often asked what method of treatment should we prefer. Cutting instruments, such as bistouries, scissors, and lancets, are very difficult to employ even when the fistula is near the neck of the bladder. Of this I have had ample opportunity of judging, and have consequently abandoned the use of them. It is difficult to cut the edges of the fistula evenly and uniformly, and if a bleeding surface be applied to one which has not been cut, of course no union will take place. With cutting instruments we are obliged to remove a considerable quantity of soft parts, and so increase the extent of the opening without deriving any particular advantage. We do not by this method produce an intumescence of the edges of the wound, which is of the greatest service in bringing the parts into complete coaptation, and it also serves to arrest the passage of the urine into the vagina, so effectually, that the patients often fancy themselves cured of their infirmity; besides, we cannot by excision procure a more speedy adhesion than after cauterizations, nor are the parts more disposed to contract or form adhesions. We ought to abandon cutting instruments, seeing that they possess no real advantage, and that their employment is exceedingly difficult. The actual cautery should always be employed when we wish to destroy certain parts, to level inequalities and particularly when the opening is great, or else very small; when this opening is somewhat concealed, sinuous, and when its course cannot be followed by a stick of nitrate of silver. The cautery ought not to exceed a line in diameter at its thickest part: the shank ought to be much smaller, that it may retain less heat. We should have them

of different shapes, for straight or sinous fistulæ, as may be required. A demi-speculum will protect the posterior wall of the vagina, whilst the fistula is exposed, and the superior wall should be protected by a spatula. When the orifice of the fistula is of moderate size and regular, it matters little whether we use the actual cautery or nitrate of silver, and we should pay respect to the choice of the patient. When the fistula is very narrow, we should use a piece of nitrate of silver, expressly prepared for the purpose, for an iron sufficiently small could not retain sufficient heat to be of any use by the time it would be applied. As to the best means for retaining the parts in contact, I prefer the *sonde airigne* to sutures, particularly in the transverse fistula, and these are the most common, for among twenty-one cases, I only met with one whose direction was oblique. Are sutures more easily applied or less painful? Most assuredly not. Moreover, they do not effect a closer and more exact apposition of the parts; and they are open to many other objections; with the *sonde airigne* we can increase or diminish the pressure at will.

The author ends his paper by giving a long description of the *sonde airigne*, which, unaccompanied by any wood-cut or lithographic representation, we fear, would not be very interesting or even intelligible to our readers. We hope, however, soon to see it in the shops of our instrument makers.

Dublin Jour. of Med. Science, July, 1843, *p.* 523.

70.—TREATMENT OF CICATRICES OF THE NECK AFTER BURNS.—By J. H. James, Esq., Surgeon to the Devon and Exeter Hospital, &c.

[Mr. James has been more than usually successful in curing those contractions after severe burns of the neck, which have been so frequently given up as incurable. Most authors who have written on this subject, and among the latest, Mr. Liston and Mr. Fergusson, state that after a division of an old cicatrix it will generally return to the same state of contraction in which it was before the operation. To remedy this, Dr. Mutter, of Philadelphia, (See Retrospect, Part VI., Art. 51), dissects out the whole of the contracted part, and supplies its place by sound skin taken from the contiguous surface. In a paper which Mr. James read before the meeting of the Provincial Medical Association, he stated:]

That, whereas in the limbs no difficulty exists in maintaining the proper position of the part after the cicatrix has been set free, there being but one joint concerned, and that easily fixed, this is far from being the case in the neck, from the peculiar mobility of that part, arising chiefly from the numerous joints in the cervical spine. It might be supposed, *a priori*, and indeed has been, that confining the head back would keep the chin and sternum sufficiently asunder; but this is not so. To elude the effect of the cicatrix as it contracts, the cervical spine becomes shortened with a curve either to one side or backwards, as the case may be. To render this approximation impossible, became, therefore, the object of my inquiry. I considered that if an apparatus could be interposed between the clavicles and lower jaw, extending backwards to the basis cranii, so as to prevent these parts from approaching each other, I should obviate the difficulty. These purposes are fully attained by the apparatus here presented, which possesses the further advantage of raising the chin by the action of the screw, so that the change in the position, not only of the soft parts, but of the bones, is gradually redressed, and the neck and face wholly, or in a great degree, restored to their former proportions; for it must be observed that the bones themselves, as in talipes or varus, become altered in their shape. The rigid cicatrix holds the chest and front of the face tightly together, so that, as the child grows (for it is generally in children these accidents occur, especially females), the whole bony apparatus is fixed; and when it has been chiefly on one side, I have even seen the orbit of that side considerably lower than the other. I have also seen the lower incisors pushed horizontally by the pressure of the tongue, the counter-pressure of the muscles of the lower lip being wholly wanting.

I do not pretend that all traces of so great a deformity can be effaced by the operation—that there will be no drawing down of the lower lip, no scar, no de-

triment to the personal appearance, but I am warranted in asserting that the lips will be allowed to close, to retain the saliva, and for distinct articulation—that the head and face may be carried erect, and freely moved, the lower lids no longer everted—that the patient will enjoy her life in comfort, and no more exhibit a picture miserable to behold. It has been objected that the contraction may return. The answer is, that it does not, if the apparatus is worn for a few months after the healing is completed. The observation of many years warrants me in stating this. I may further and incidentally mention, that the apparatus I have described not only answers the purpose for which it was originally intended, but that, if employed in due time, it is capable of preventing the primary cicatrices consequent on burns from contracting, as is fully shown by a patient, now under the care of my friend and colleague, Mr. Harris, just about to be discharged from this hospital; *and furthermore, that it may be most advantageously employed in those cases where the cervical vertebræ give way from disease, or where it exists in the processus dentatus, and support is required.*

Such are the uses of the instrument, and such are the advantages of the operation; but it must not be concealed that it is long, sometimes difficult, and very painful—that very great attention is requisite in the subsequent management, and a long confinement necessary on the part of the patient; yet, so strong is the feeling in the female mind of the horrid disfigurement, as well as physical disability, produced by these accidents, that I have never met with one patient who has not been deeply grateful for the relief afforded.

It is but right I should state that another mode of operating has been very recently proposed and practised by an American surgeon, Dr. Mutter, of Philadelphia. It consists in adopting the Taliacotian principle, so as to cover the wound formed in the neck after the removal of the cicatrix. It strikes me, however, that if this should be found preferable in some, in many *bad* cases it will not answer the purpose, unless the collar be also employed; for although, by a careful dissection of the parts at the time of the operation, the chin and the sternum may be very considerably separated, yet, without the continued and gradual action of the screw, they will not be restored to their natural position. In addition, I may mention, that in by far the greater number of bad cases, the adjacent integuments are themselves so involved in the mischief as to offer no suitable materials for a flap. I may observe, in this place, that in small cicatrices in any part of the body, I have sometimes adopted the plan of destroying them by caustic potass. The ulcer which forms offers no obstacle to any extension which may be wished, and the cicatrix which follows has no peculiarity like that consequent on burns by fire, a circumstance sufficiently remarkable in itself.

[The treatment consists—]

1. In dissecting the hardened cicatrix from the subjacent parts, having previously dissected it with a Brodie's knife in most cases, and, in all, forming a flap to turn up under the chin; and I may here take occasion to mention that I think it the safest and best method to operate on the patient in the recumbent posture. 2. In confining this flap under the chin by broad straps of adhesive plaster, and a uniting bandage, secured at the top of the head, which must be shaved to some extent. 3. In covering the large exposed surface in the throat with moistened lint, and bread-and-water poultices, confined by a pasteboard collar, until suppuration is freely established, the head being rather thrown back at the same time. 4. By the use of the screw collar as soon as suppuration is established. In very bad burns it is often desirable to change the first for one with a longer screw, as ground is gained for its action. The apparatus should be worn for many months at least after the cure is completed.

Provincial Medical Journal, Aug. 19, 1843, *p.* 421

VI.—POINTS CONNECTED WITH THE LIGATURE OF ARTERIES.—By JAMES SPENCE, Esq., Lecturer on Operative Surgery, &c., Edinburgh.

[While the process which nature adopts in the obliteration of arteries after a ligature has been applied, has been minutely noticed by different observers, there is one circumstance, the importance of which, in Mr. Spencer's

opinion, has never been sufficiently remembered. What are the present opinions as to the changes which occur after the application of a ligature? Some writers believe "that permanent closure of an artery is principally effected by adhesion between the surfaces of its internal coats, but that the clot is necessary up to a certain stage of the process, viz., until, by its presence, it shall have excited such a degree of irritation as to give rise to adhesive inflammation between the opposite surfaces of the internal tunics of the vessel, to a greater extent than the presence of the ligature alone could produce; and then having no further need of its services, they dismiss it somewhat unceremoniously." This opinion is particularly entertained by Mr. Allan Burns, and in many respects is objectionable. Other writers believe that "the coagulum is a permanent provision in the process of obliteration, and absolutely essential to prevent secondary hæmorrhage on the separation of the ligature, that without it the adhesions between the divided internal coats would be quite insufficient to resist the impulse of the blood, and that it gradually undergoes certain changes, becomes organised, adheres to the coats of the artery, and eventually renders the vessel an impervious cord." In opposition to this opinion, which is particularly held by M. Manec, and plausibly supported by numerous and careful experiments, we have facts recently published which show that the clot is not absolutely essential, even in some of the largest arteries, although when it is present it will give rise to the results related by this gentleman. The most general opinion on this subject is that held by Jones, Travers, Guthrie, and others, viz., that "the permanent obliteration of an artery depends entirely upon the cicatrization of the divided internal tunics, and that the clot is merely an adventitious circumstance, which, when it takes place, may assist, but is not essential to the completion of the process." Now although all these opinions may be more or less correct under different circumstances, Mr. Spence thinks that the changes which take place on the exterior of the vessel, although slightly mentioned by Dr. Jones, have never yet been sufficiently valued. Mr. Spence says—]

If we examine an artery which has been tied, forty-eight hours after the operation, we find it surrounded for a considerable distance above and below the ligature by a deposition of pretty firm lymph, which presses upon and adheres to the coats of the vessel, completely embedding the ligature, which is deeply sunk between the ends of the artery. At this period the adhesions of the lymph to the arterial parietes, though distinct, are comparatively slight. When examined ninety-six hours after ligature, the effused lymph, though diminished in bulk, has become much firmer, and is, as it were, concentrated round the vessel; and when the external portion is dissected off, we see distinct filamentous bands passing from one end of the vessel to the other around its entire circumference. If examined at the ninth day after the operation, that is, when the ligature is separating, we find that the thread is enveloped in a tubular sheath of lymph, that the deposit round the vessel itself is now very dense and firm, and if the ligature be partially separated, we find that the effusion of lymph has kept pace with its separation, and united the ends of the vessel at the point whence the ligature has separated, immediately behind the thread. On the thirteenth day, that is, when the ligature has fairly come away, the lymph has assumed the appearance of a firm connecting medium uniting the divided ends of the vessel, not unlike the exuberant callus in a fracture; at the twenty-eighth day in some, but later in other cases, it has become much absorbed, so that the vessel has now the appearance of a firm impervious cord at that part where the effused lymph formerly existed. From a consideration of these facts, I am induced to believe that the lymph effused around the artery, is of great importance in assisting the internal changes in the process of obliteration. First, and most obviously, by uniting the divided ends of the vessel, and thus supporting the adhesion of the internal coats at the period of separation of the ligature, for, at that period, a sort of double action seems to go on—the ligature ulcerating its way out, whilst, at the same time, the reparative process of effusion of lymph keeps pace with the ulceration—a process, in fact, analagous to the old operation for fistula, with

the gradually tightened wire, the reparative process literally following step by step in the track of the ulceration. There is also another very important, though at first sight less obvious effect, which the diffused lymph will produce from its very first deposition, viz., by its pressure it will diminish the calibre of the vessel, and thereby lessen the impulse of the blood in the neighbourhood of the ligature.

As to the views I have taken regarding the absorption or organization of the clot, they merely have reference to the present state of our knowledge on these points. I am inclined to believe in its organization, because direct proof has been given that coagula have been shown to become organized. As to absorption of the clot, though I do not mean to say that it cannot take place, we have as yet no proof adduced as to the manner in which such a change could be effected from the internal coats of arteries. There is, however, much to be done in investigating these points, and I believe that the zeal with which microscopical inquiry is now pursued, will be the means of furnishing us with a more accurate and distinct knowledge of the changes which take place both in these and other experiments. *Lon. and Edin. Mon. J. of Med. Sci., June, 1843, p. 501.*

72.—POWERFUL COUNTER-IRRITATION, ESPECIALLY THE LONG ISSUE ON THE CALVARIUM.—By GEORGE WALLIS, M.D., Physician to the Infirmary, and Lecturer on Anatomy, Bristol.

[Dr. Wallis received the first hint on this subject from Mr. Richard Smith, the present Senior Surgeon of the Bristol Infirmary, who, in many cases of severe injury of the head, is accustomed to make an incision through the scalp, whether or not there be symptoms of fracture or depression; and this he does for two reasons, viz., to cause a local loss of blood, and to produce an advantageous counter-irritation. Dr. Wallis has used the same means in a variety of cases of organic affection of the brain, both chronic and acute; in paralysis, impending effusions, convulsions, erysipelas of the head and membranes of the brain, in fever in the very advanced stages, &c. He says that "its effects are more permanent and its disadvantages are fewer than those of any other remedy now in use." It is not, however, to be used in the first onset of disease, but when all the ordinary means have been fairly tried, and have failed to produce relief. In acute diseases, the greatest discrimination will be required to make use of this remedy at the proper time; for if, in serious effusions, for example, it be delayed till the ventricles are filled with fluid and pressure has commenced, it rarely happens that absorption can be promoted sufficiently to effect a cure.]

The circumstances which are necessary to be attended to in making the longitudinal incision or issue on the calvarium are these:—Let the head be shaved entirely, and have the patient brought near the right side of the bed: raise the head by a hard pillow, and put a towel round his neck to receive the blood; let an assistant keep the head steady; at the same time draw the scalp downwards in all directions, so as to strain the calvarium as much as possible; the scalp will divide with so much more ease. In this your own left hand will materially assist, by placing it at the upper and back part of the head, commencing the incision between your thumb and fore-finger as far back as the lamdoidal suture; press the scalpel sufficiently down so as to divide the scalp entirely through at once; carry on the incision directly along the sagittal suture as far as the hair grows on the scalp, and which will cover the cicatrix after the issue is healed up. The length of the incision thus made will be in the adult about seven or eight inches; take care that the scalp be divided entirely and perfectly through, so that the edges of the incision will separate so far as to enable you to introduce a dossil of lint, rolled up hard, as thick as two fingers, and which should be well soaked in spirits of turpentine; this answers the double purpose of increasing the effect of the incision, and makes suppuration come on earlier and will usually assist in stopping a further loss of blood. The arteries very soon retract and cease to bleed; there is seldom more than six or eight ounces of blood lost, and this quantity may be very readily curtailed if it be desirable to do so.

In those cases where depletion has been carried to a sufficient extent, prior to your determination to use this remedy, and the further loss of blood be unadvisable, it may be prevented in the following manner—The instant the incision is completed, close the sides of the wound and make pressure upon it with your hand, whilst your assistant hands the lint, well soaked in the spirit of turpentine, and rolled up firmly of a proper length, so as not to extend beyond the extreme length of the incision, as it would be inconvenient in strapping down the wound sufficiently to check the flow of blood; a little flour and dry lint may be superadded if necessary, but the dossil must not be made so thick as to rise much above the edges of the wound, or else the adhesive straps will not be secure by being elevated, and thereby prevented from adhering near the edges of the incision. Should the incision be imperfectly made, that is to say, not entirely through the scalp, the arteries might be only partially divided; in which case they will continue to bleed, notwithstanding the pressure you may have made; of course the arteries will require to be completely divided, to allow them to retract and cease to bleed.

The best method to adopt where there is much restlessness and delirium, and to which I generally have recourse when a further loss of blood is not desirable, and there is a risk lest the patient should disturb the dressing and cause the bleeding to be renewed, is the application of the *actual cautery* for an instant to the arteries; this is very readily done, and is not perceived by the patient. It is better to be provided with the means of doing so in every case where any additional loss of blood cannot be afforded. The common thick plaister knife, which is used for spreading plaisters requiring heat, answers very well, and should be put into the fire to be ready if wanted; in one instance I had occasion to regret that the surgeon did not take this precaution. The arteries divided are of course the coronal branch of the temporal and the anterior superior branch of the occipital, making two on each side; they will cease immediately to bleed by a slight touch of the red hot iron for an instant. This is a safe mode of proceeding, especially in all those cases where the loss of blood cannot be borne, and where the surgeon lives at a distance from the patient. In the greater number of cases, however, the loss of a few ounces of blood is an important advantage, and the arteries will retract and cease to bleed before you desire them. In such cases, where it may be desirable that a certain quantity of blood should be lost, the hæmorrhage may be promoted by the constant sponging of the wound with warm water. When sufficient blood has flowed, introduce the dossil of lint, press it well into the wound so as to separate the edges as widely as you can, and apply your adhesive straps. These should not be more than one inch wide, and must be eight or ten inches long, that they may have a firm hold of the scalp, and support them by the double-headed bandage; or, perhaps, in those cases where the night delirium is troublesome, the patient may pull them off or loosen them with his hands, or whilst rubbing his head or rolling it about on the pillow, by which means the arteries may be again opened and a serious and inconvenient loss of blood may occur; one instance of this kind having occurred in my practice, I do not wish to see another. The straps ought to be cut or set at liberty on the next day, the first minute you are safe from renewed hæmorrhage, on account of the inconvenience the patient feels from the pressure. Great relief is felt when the straps are cut, and a bread and water poultice is placed along the head on the top of the lint. If suppuration be not inclined to come on by the second or third day, a little spirit of turpentine may be rubbed up with some unguentum resinæ flavæ, or even a little blister ointment, either diluted or not, may be used. When the lint comes out, another dossil may be used, rolled up in the same way, covered with digestive ointment or savine ointment, &c., so as to keep up an effectual irritation. In a few days a double row of peas, seventy or eighty strung together, may be used to prevent granulations filling up the issue; a point rather difficult to accomplish, especially in chronic diseases where the issue is required to be kept open three or four months. Indeed this cannot be done without the repeated use of caustic, the application of which, however, is beneficial, not only in keeping open the issue, but also in adding to the effects of the

issue as a counter-irritant. Most cases require this to be done every five or six days, if you wish to keep up a continued and energetic effect.

[Dr. Wallis gives a series of very interesting cases to prove the truth and value of his recommendation.]—*Trans. of the Prov. Med. Asso., vol. II. p. 307—336.*

13.—REMOVAL OF FOREIGN BODIES FROM THE TRACHEA.

[In some observations respecting the case of Mr. Brunel, in whose trachea it is well known a half sovereign remained for some time, Sir Benjamin Brodie remarks—]

That the difference of symptoms indicating the presence of a foreign body in the air-passages, would depend upon the size and figure of the body in question. If the body were large it would become impacted in the trachea, and the respiration would be obstructed. If it were small it would probably descend into the right bronchus, or perhaps into one of its divisions, and the breathing would be less obstructed. If it were light or not irregular in shape, it might ascend to the glottis during a fit of coughing, and produce suffocation. If it were heavy it would not ascend during coughing, and there would be less fear of bad results. It had been thought that in the present case the coin had passed into the right bronchus, because in some experiments on dead bodies it was found that a sixpence or a half-sovereign usually fell into this passage when introduced into the trachea. There was little inconvenience experienced by the patient when he was in the upright position, but he (Sir B. Brodie), believed that had the coin been allowed to remain, disease of the lungs, leading to a fatal result, would have followed. The failure of the stethoscope to afford any diagnostic assistance probably arose from the small space occupied by the coin; but even in more favourable circumstances it had been proved that we could not depend on this instrument. Mr. Hodgson, of Birmingham, had related a case to him in which a little boy six years of age, had got a berry of the bladder-senna, as large as a pea, into the trachea. No sound whatever could be detected by the stethoscope. In seven days he died; the berry was found impacted in the trachea, about an inch below the cricoid cartilage. Mr. B. Phillips had informed him of another case in which a little girl two years of age, had died from the presence of a piece of the claw of a lobster in the trachea, on a line with the margin of the sternum, and in this case there were no stethoscopic signs of its presence whatever. The opening of the trachea in Mr. Brunel's case, had fully answered one of the purposes for which it had been made, for none of the spasms or convulsion had followed the inversion of the body subsequently to the opening being made. The proceeding failed in the other object contemplated; but it must be remembered that the introduction of forceps into the trachea was always very difficult, for not only might the instrument slide over the surface of the coin, or pass by its sides, but there was a fear of grasping the bifurcation of the trachea, a thing very likely to occur, recollecting that the parts were out of sight and at some distance from the surface. Every attempt to introduce the forceps was accompanied by great spasm and irritation, and contrary to what might have been expected from the experiments of Magendie, this irritation was produced whether the forceps were passed up towards the larynx, or downwards towards the bronchus. The forceps were accordingly abandoned for these reasons, and the fear of injuring some of the most important parts situated in that neighbourhood. *Lancet, July* 1, 1843, *p.* 481.

[This interesting case induced Mr. Erichsen, of Welbeck-street, to institute experiments similar to those made by Magendie, some years ago,* to ascertain the effect of the irritation of the glottis, by the introduction of a foreign body, under the different circumstances of the trachea being entire and incised.]

Experiment 1.—The trachea of a dog having been exposed, a puncture about a line in length was made in it, about midway between the sternum and larynx. The animal continued to respire through the glottis, the opening in the trachea being so small that scarcely an appreciable quantity of air escaped by it. A

* Magendie's experiment will be found in the Lancet for 1836-37, vol. 2 p. 505.

small bent probe was then introduced upwards: the presence of this foreign body seemed to excite no irritation until it reached the larynx, when, as was to be expected, violent cough, with convulsive action of the muscles of respiration, and of those of the neck, the larynx being forcibly moved up and down, was induced. The animal foamed at the mouth, and struggled violently, having all the appearance of one in the earlier stage of asphyxia, the tongue becoming livid, and the eyes strained. On the probe being withdrawn, these phenomena soon ceased, but recurred whenever it was re-introduced. I found that although coughing was induced when the probe was passed downwards into the lungs, it was not of so intense a character as when the instrument was directed upwards, nor were the struggles so violent. On the employment of moderate force, it was easy to push the probe through the rima glottidis, but when this was done the appearance of distress was much increased, and the danger of inducing asphyxia so great, that it was obliged to be speedily withdrawn. This experiment was made with the view of determining the natural sensibility of the larynx and glottis of a dog when irritated from within. In order to introduce the probe, it was, of course, necessary to make a puncture in the trachea, but this was so small as not to interfere in any way with the action of respiration; which function was carried on, as usual, through the glottis.

Experiment 2.—The trachea being exposed, as in the first experiment, an incision, commencing about half an inch above the sternum, and extending upwards for nearly an inch, was made in it. The edges of this were held apart, so that respiration might be carried on through it instead of through the glottis; the animal was therefore in the condition of a person on whom tracheotomy has been performed. The probe was then introduced, as before, into the larynx, up to the glottis, when the same violent contraction of the muscles of respiration, and of those of the upper part of the neck, was excited, and attempts at coughing were made, which, however, could not take place perfectly, as the air was not forced through the glottis. There was one remarkable difference between the phenomena attending this experiment and those of the former one; to wit, that although the evidences of laryngeal irritation, and the consequent reflex muscular actions, were equally great, yet there were none of those symptoms of asphyxia observable in it which were so strongly marked in the preceding one. The reason of this difference was obvious; for although, in both cases, the irritation of the foreign body produced the same spasmodic action about the glottis, yet this could only give rise to asphyxia when there was no other opening through which respiration could be carried on; the tracheal aperture acting, as Sir B. Brodie observes, as a safety-valve.

Experiment 3.—The trachea being exposed, as before, I introduced, and firmly tied, a wide pipe into the lower portion of it, so that respiration might proceed uninterruptedly; I then cut it completely across, immediately above the point where the pipe was introduced, about half an inch from the sternum, so as to separate the larynx and glottis from any direct connection with the rest of the respiratory apparatus. On introducing a probe, as before, precisely the same phenomena ensued as in the second experiment; the muscles of respiration, and of the neck, being thrown into strong action, and imperfect attempts at coughing being excited, which usually terminated in convulsive expiratory efforts. As these experiments have been repeated on five different dogs, and several times on each animal, with, as nearly as possible, the same results, I think they may be looked upon as accurate.

On reviewing the details of these experiments, it will be seen that the phenomena presented by them are divisible into two classes. In the first may be comprised those reflected movements which usually proceed from irritation of the larynx and glottis—such as attempts at coughing, violent spasmodic closure of the glottis, and convulsive action of the muscles of respiration and of the neck, which were common to all the experiments, whether the trachea had been previously opened or not. In the second class may be placed those symptoms of incipient asphyxia which occurred in the first experiment only, and which cannot happen except in those cases in which, the trachea being entire, spasmodic

closure of the glottis will necessarily, by arresting the respiratory changes, occasion the symptoms and sensations of impending suffocation.

We are then, I think, warranted in concluding from these observations, that the existence of an opening in the trachea, sufficiently free to allow of respiration being carried on through it, or, indeed, complete division of that tube, does not materially, if at all, diminish the sensibility and contractility of the glottis. And this, it appears to me, is nothing more than we should *a priori* have expected, for it would have been a solitary instance in physiology if the suspension of function in so highly sensitive and contractile a part had at the same time entailed a loss of its perception of, and power of contraction on, the application of a stimulus. When a foreign body, therefore, accidentally introduced into the air-passages, escapes through the glottis without exciting spasmodic contraction of the muscles, or reflex movements in those of respiration generally, after an opening has been made in the trachea, it probably does so in the same accidental way that it entered; the sensitive parts through which it passes being, as it were, taken by surprise, whilst the attention of the patient is directed to the artificial opening, or to the circumstances in which he is placed. It would probably be as difficult for a patient (whether his trachea were opened or not) to expel a foreign body through his glottis, if his attention were fixed upon that part, whilst he made the attempt, as it would for him *voluntarily* to introduce it into the air-passages through the same aperture. There is, however, this most important difference between the presence of a foreign body in the larynx, or in the glottis, before and after tracheotomy has been performed, that, although the sensations of local irritation, and the reflex movements consequent upon them, may in both instances be the same, yet danger from asphyxia can necessarily only occur in those cases in which the glottis is the sole aperture through which respiration can be carried on.

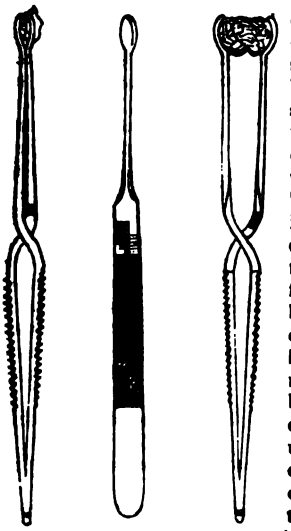
The point of treatment involved in the question that has just been discussed, is nothing less than the object with which the opening in the trachea should be made—whether tracheotomy should be performed in order to facilitate the passage of the foreign body through the glottis, by diminishing the sensibility of that part, or, whether it should not be had recourse to, in order to allow it a free exit through the artificial opening. It has been shown that the natural actions of the glottis are not interfered with by the performance of tracheotomy, and the consequent suspension of its function by the passage of the air in respiration through another opening; we cannot therefore expect, as a probability, the expulsion of a foreign body through the rima glottidis, although the case that has lately occurred to Sir Benjamin Brodie has shown the possibility of such an occurrence taking place. Tracheotomy, therefore, should not be performed with the expectation of, by any such procedure, diminishing the sensibility of the larynx and glottis; but should be had recourse to, as was, I believe, done by the very eminent surgeons who attended the patient in the case just referred to, with the intention of affording the foreign body a free passage through an opening not endowed with so extraordinary a degree of sensibility.

There is yet another practical consideration flowing from the preceding ones, and which was mooted by Mr. Quain. It is, whether in those cases in which a coin or other heavy foreign body has found its way into the air-passages, it would not be advisable, after the performance of tracheotomy, and before putting the patient into a prone position, to introduce some instrument into the opening in the trachea, so as to prevent the foreign body from being thrown, during the change of position, into the larynx, or against the glottis, and thus occasioning much distress to the patient, and embarrassment to the operator.—This appears to me, as the sensibility of the parts is not materially lessened after the trachea has been opened, to be a sound piece of advice.

We have already the sanction of the very highest surgical authority in Great Britain for the employment of the prone position in those cases in which heavy bodies have found their way into the bronchi, in order that, after the performance of tracheotomy, they may be brought by their own gravity to the artificial opening in the trachea. Now I would suggest, in accordance with Mr. Quain's

proposition, that, after the windpipe has been opened, an instrument of such a construction as would arrest the passage of the foreign body into the larynx should be passed into the incision in the trachea at its upper angle. The patient might then be placed in the prone position, and the head and shoulders being lowered, the coin, if dislodged from the bronchus, would either fall out of the tracheal aperture, or else against the instrument; whence it might be readily removed either by means of a common pair of forceps, or by using it (the instrument) as a scoop.

With the view of thus occluding the trachea above the aperture, I have had an instrument constructed by Mr. Coxeter, of Grafton-street, of which an engraving is annexed.



It consists of a pair of cross-action forceps, the blades of which terminate in branches two and a half inches in length, and slightly bowed at the extremities; within the bowed part is inserted a piece of delicate bu strong net. The forceps open to the extent of three-quarters of an inch, which will be sufficient to obstruct all passage through the windpipe in the ordinary situation for tracheotomy. These forceps should be introduced edgeways in a direction corresponding to the longitudinal diameter of the tracheal incision; they may then, the patient having been turned on his face, be opened transversely; and the foreign body will, if dislodged, necessarily either fall out of the artificial opening, the sides of which will be kept widely separated by them, or against the net of the instrument: whence, as has already been stated, it may either be removed with a common pair of operating forceps, or else by using the tracheal forceps as a scoop. At all events, the great object of the instrument, that of preventing the foreign body from falling into the larynx, or against the glottis, and thus exciting irritation and distress, would be accomplished.

Medical Gazette, July 14, 1843, *p.* 557.

[Mr. Edwin Casson, Surgeon to the Bradford Infirmary, related an interesting case of this description to the Provincial Medical Association at Leeds, which differed in one material point from many cases related in this, viz., that although on percussion the chest was equally sonorous on both sides, the respiratory murmur was completely absent on the side where the foreign body (a small pebble) was lodged.]

Provincial Medical Journal, Sept. 2, 1843, *p.* 464.

14.—HINTS ON THE TREATMENT OF STRANGULATED HERNIA.—By Dr. James Arnott, Brighton.

Strangulated enterocele may be considered as the protrusion of a portion of the intestine from a large vessel or cavity (the abdomen) into a smaller vessel (the hernial sac), from which it is prevented returning by a constriction at the aperture connecting the two vessels. In the large cavity the intestine is subjected to considerable but varying pressure; in the smaller one, under usual circumstances, there is little or no such pressure. The membranous ring forming the aperture is dilatable, or may be stretched in various degrees, and occasionally, it is probable, may be retained in its contracted state by spasm. And as the portion of gut in the smaller cavity or sac has its functions disturbed, and is generally thrown into a state of inflammation by the constriction upon it at the orifice of the sac, the worst consequences proceed from a continuance of this state.

Now, the indications of cure under the above circumstances would be—

1. To diminish the bulk of the protruded part. When so diminished, although the ring may remain in the same state, the constriction may be removed, but by the diminution of bulk the parts are, moreover, rendered capable of pressing through the ring, which is effected either by retraction from the action of the intestine within the abdomen, or by the intestine being pushed through it. The bulk of the part or parts may be diminished by having the congested blood squeezed out of them, or, in the case of the intestine, its gaseous and other contents.

2. To widen the ring or lessen its resistance to dilating means. This may be done by (*a*) dilating or stretching it, or (*b*) by cutting it, or (*c*) by removing spasm, and producing general relaxation.

3. To dispose the cavity of the abdomen for the return of the protruded parts, by (*a*) removing the contents of the intestine in the abdomen, or (*b*) diminishing the resistance from its boundaries.

4. To reduce the protruded parts, either by (*a*) pushing it through the ring into the abdomen, or (*b*) by causing it to be drawn from the interior out of the sac.

Of the two modes of fulfilling this indication, the first has been a great deal too much confided in, and the second, of late years especially, a great deal too much neglected. The reduction of the protruded parts by the efforts of the intestine with the abdomen, is the plan of cure adopted by the conservative principle, the "vis medicatrix," of nature. The bowels are quickly thrown into a high state of action by the strangulation, the tendency of which is to withdraw the strangulated portion from the sac; and if the surgeon were to limit his endeavours to diminishing the bulk of the hernial contents and disposing the ring to relax, nature left to herself would generally effect all that remained to be done. Many cures of strangulated hernia have been thus performed by unassisted nature. The suddenness with which the intestine will often pass through the ring when the constriction is removed, is sufficient proof of the retracting power within the abdomen.

5. To obviate or remove inflammation and other bad consequences of the constriction before and after this has ceased.

To fulfil these indications the following are the principal means now employed:—

1. The most important, and that first employed, is the reduction of the contents of hernia by the hand, an operation termed "the taxis." It fulfils, more or less perfectly, the indications 1; 2, *a*; 4, *a* and *b*; 5.

The mere reference to most of these indications is sufficient; with respect to others, a few words of explanation are necessary. The taxis is calculated to fulfil the indication 4 *b*, by the stimulus from the squeezing and kneading of the prolapsed intestine being extended to its continuation in the abdomen, and thus exciting its peristaltic motion. The indication 5 is fulfilled by the squeezing out of the acrid fæcal contents freeing the gut from that distention and irritation which might cause or increase inflammation.

The taxis would thus appear to be a very complicated operation, and, from this complexity not having been generally understood, much mischief has arisen, as a difference of manipulation is required for the accomplishment of most of the objects ennumerated. Had the term taxis been dismissed from the surgeon's vocabulary, and the indications it fulfils been expressed separately, many of the objections that have been at various times made to it would not have applied. The first and most important indication of diminishing the bulk of the hernial tumour is well fulfilled, even after the first stage of the disease, by a continued and uniform pressure of the hands. The fulfilment of three of the others would be hazardous when the disease has existed for some time, and inflammatory symptoms have appeared.

Amongst the various manœuvres commonly used in the taxis, experience has shown the advantage of turning the hernial tumour at intervals from side to side, but, so far as I know, no explanation has been given why this should prove useful. I believe the reason is, that the channel for the passage of the fæcal contents may be thus freed from an increase of obstruction which has been occa-

sioned by the contortions of the gut, and brought more on a line with its continuation within the abdomen. I advert to this expedient particularly with reference to a suggestion in the subsequent part of the paper.

One curious effect of pressure applied to the hernial tumour has not, I believe, hitherto been noticed. To those who, with Sir Astley Cooper, have supposed that the great if not sole object of the taxis is to push the intestine through the ring, the assertion will appear not a little paradoxical that it must frequently happen, when the protruded intestine is distended, that the pressure instead of pushing it out of the sac into the abdomen will, on the contrary, draw a fresh portion of the gut from the abdomen into the sac. This arises from the same cause mentioned above, which occasionally produces an increase of the hernial tumour. The contents of the protruded intestine on being urged towards the ring or mouth of the sac bulge or press out each end of the loop as it gets contracted towards the stricture or ring, and thus draw out a fresh portion of the gut. Nor is this effect to be considered as injurious. The constriction is thereby removed from a part already perhaps hurt by its long continuance; and by the spreading of the gas and other fæcal contents of the intestine over a larger space, the irritating distention of it is removed, as well as other benefits obtained from the lessening of this distention, which will be afterwards noticed.

It has, indeed, been recommended to pull the intestine a little way further out of the ring previously to the attempt at reduction, whether by the taxis or after opening the sac.

2. Blood-letting. Indications 2, *c*; 3; 5. This measure, when carried to a considerable extent, has generally been considered of much efficacy; but it is obvious that in aged or weakly subjects large and repeated bleeding can never, in this or any other disease, be made without some hazard. Syncope, or an approach to it, might be produced in such cases with safety, and probably as effectually by drawing the blood to the surface and into the limbs by means of the large cupping glasses or cases that have been employed for this purpose.

3. The warm-bath. The same indications are probably fulfilled by this remedy as by blood-letting. Although its general effect is powerful and salutary, its local effect may be injurious, by rarifying the air with which the strangulated gut is so often distended; hence poultices and fomentations are no longer employed in hernia.

4. The continued application of cold to the tumour. Indications 1; 2, *c*; 5. Sir Astley Cooper, whose opinions respecting the *modus operandi* of the taxis and of cold, form a singular contrast to the excellence of his observations upon other parts of the subject of hernia, deemed the action of cold to be useful by reducing the sensibility of the parts, and by constringing the scrotum, and thus exerting a useful pressure on the parts. He pronounced the idea that it could be useful by reducing the volume of the air distending the gut an absurdity, and for two reasons: first (he says), because it has not the effect of doing this; and, secondly, because if it had it would be of no service. It might be asserted with as much truth, that the mercury in a thermometer is not contracted by the application of cold, and that the bulb of a thermometer can pass through as narrow an opening as its tube.

5. Injection of tobacco. Indications 2, *c*; 3; 4, *b*. Powerful as this means may be, it cannot be denied that it must be classed with the "operation," among the most hazardous remedies of strangulated hernia.

6. Purgatives and purgative enemata. Indications 3; 4, *b*.

7. Antispasmodics. Indications 2, *c*; 5. Opium and the other antispasmodics are now seldom used in strangulated hernia, but it has been lately asserted by certain French writers that much benefit has accrued from rubbing belladonna on the tumour, and from applying both this and opium to the urethra by means of a bougie. That this method of treatment may prove of service I think is very probable, though I would ascribe the benefit not to the absorption of the medicines by the mucous surface, but to the general relaxation and fainting that is so often produced by passing instruments into the urethra. Whether syncope is produced in this manner, or by bleeding, or by the warm bath, or by extensive dry-cupping, the effects must be similar, although the causes of it

differ exceedingly in respect to safety and facility of application. And I have often thought that this very common effect of passing instruments along the urethra might be applied with advantage in other cases in which syncope from large bleedings is usually recommended.

Another recent French practice in hernia is the application of large cupping glasses *near* the tumour, to withdraw the intestine from the sac into the abdomen; and *over* the tumour, to draw a further portion of the intestine into the sac. It is improbable that either of these indications, more especially the first, can be so fulfilled, although dry-cupping in the vicinity of the hernia might be useful in various ways, on the principle of counter-irritation. (This powerful means of revulsion, formerly so much in use and so deserving of the confidence placed in it, is at present too often neglected on account of the trouble and supposed difficulty of applying it. But the apparatus and slight-of-hand dexterity of a professed cupper are not always required. A common beer-glass will answer for the above and similar purposes. The air within it may be rarified without possibility of failure by setting on fire a little spirits of wine dropped upon a dossil of lint or cotton, or bit of blotting paper, previously fixed to the bottom of the glass with wax; and the glass may be covered with thin paper wet, in order that it may yield to the distention, and having in its centre an aperture much smaller than the mouth of the glass. Amongst the various modes that have been adopted for extracting the air from cupping glasses, I am not aware that it has yet been suggested to produce a vacuum by the fall of a column of fluid, as the Toricellian vacuum is produced in the barometer. Of course the vacuum need not be rendered complete. In the application of the large cupping vessels, alluded to above, where it is of importance that the rarification of the air should be sudden, such a mode might be used with advantage. The application might be made in an upper bed-room, and the warm water filling the cupping vessels be allowed to escape by a long tube reaching to a reservoir at the bottom of the house.)

8. When the greater number of the remedies already mentioned have been used without success in relieving the symptoms of strangulation, recourse is had to the operation of cutting the stricture or band of fibres which prevents the return of the protruded parts. This is done either by opening the sac, and, after searching for the stricture, dividing this and the constricted part of the sac at the same time, or by dividing the supposed structure alone outside the sac. The first is a very simple operation, requiring little more anatomical knowledge than that of the appearance of the sac and the parts contained in it, and little more surgical skill than caution in dissecting down to the hernia. It is likewise, of course, a very certain way of removing the constriction from the hernial contents and of exposing their condition to the view of the surgeon. But with all these advantages it is decidedly a more hazardous operation than the latter, when this is skilfully performed and is effectual in removing the stricture. The circumstances of the particular case and the degree of skill of the operator undertaking its management, must often determine which plan is the most eligible.

From the classification and *modus operandi* of the remedies of strangulated hernia, I proceed to propose certain improvements of plans of treatment already in use, and another remedial measure on a principle different from any hitherto applied.

We have seen that long-continued pressure of the hernial tumour, and the application of cold to it, are amongst the most powerful, and, at the same time, the safest measures, we possess for the removal of its strangulation. But neither can these measures, singly, be perfectly applied in the modes hitherto adopted, nor can they, in such modes, be used in combination. If, notwithstanding, they are often successful when separately used, even in their present imperfect state, how much more frequently would they be so were they perfect and combined.

Before, however, proceeding to a description of the mode of accomplishing this, it will be proper to state a little more fully than has hitherto been done, what must be the effects of these measures in combination upon the hernia tumour.

The continued application of cold and pressure must often diminish the bulk of the protruded parts by reducing the volume of the gas with which the intestine is distended. In consequence of this diminution of bulk, the opposition is lessened to the retraction of the protruded bowel within the abdomen by the excited peristaltic action of the intestines, because the friction between the ring and both ends of the strangulated fold is lessened. Many other beneficial effects are to be added to this, most of which have already been adverted to, viz., the check to inflammatory action from the sedative operation of long-continued cold; its antispasmodic effect; the diminution of the bulk of the tumour by the expulsion of its contents; the relief to the irritable and perhaps inflamed gut by the contraction of the volume of its contents, or their expulsion; the support, both preventive and curative of congestion and inflammation, which continued uniform pressure must afford to the protruded bowel; and the restoration, in consequence of the removal of this morbid condition, of its muscular or peristaltic action.

The means of perfecting the application of cold and pressure, and of combining their agency, may be accomplished—first, as respects the pressure, by placing a bladder of water upon the hernial tumour under such circumstances as that an uniform pressure (to be regulated by the depth of the water), shall be exerted on every part of its surface; and secondly, as respects the cold, by producing a current of very cold water through the bladder by means of two tubes, one conveying the water to the bladder from a reservoir above, and the other conveying it away from the bladder to a receiving vessel at a somewhat lower elevation.

The bladder must be confined to the hernial tumour by a metallic or wooden case in the form of a basin (a small flower-pot would answer tolerably well), of considerably smaller diameter than its own, and having an opening in the centre for the passage of the current tubes. Before this case is lowered upon the surface of the abdomen, care must be taken that the hernial tumour shall be placed in the best position for the evacuation of the contents of the intestine, and that it shall be imbedded in, and surrounded by, the loose bladder; and the position of the tumour should be altered from time to time during the action of the remedies. The case for the bladder must be kept close to the surface of the body by a degree of pressure just sufficient to resist the distention of the bladder, and this, again, may be done by a bandage, or the truss, perhaps, which the patient has been using. Where the surface is irregular to which the case has to be applied, the distended bladder may be prevented escaping at any point by pushing out from beyond the margin of the case a number of strong flat wires previously placed closely together and tied round its outer surface; or its diameter and the line of its margin may be altered by plaster of Paris.

The metallic tubes forming the current apparatus may have their ends fixed together by sealing-wax, or be soldered into a short bit of larger tube, upon which the neck of a pig's bladder may be tied; and if they are tied together for the space of a few inches above their junction, their separation will be still further prevented. Many details respecting the action of this apparatus may be learned by a reference to my paper "On the Local Application of Heat and Cold," in "The Lancet" for the 25th of June last. It is only necessary to mention here that the degree of pressure of water on the tumour will be regulated by raising or lowering the tubes of the current apparatus.

Other means might be contrived to effect the purpose of that described, but none, perhaps so simple, or so easily managed. A deep cylindrical vessel might be used, having a loose membranous bottom, supported and confined to the tumour, as in the former plan, and ice may be thrown into it at intervals. Although such a vessel need not be of the same diameter throughout, it would be necessary to support it over the abdomen, as a microscope is supported by its stand.

I have stated in the paper referred to, why a current of water is, in most of its medical uses, preferable to the application of ice; and even its power of reducing temperature may be superior, just as the exposure of a heated substance to wind more quickly cools it than exposure in a still atmosphere of lower temperature.

Were it desired to make this fluid pressure greater at one part than another, it might easily be done by altering the position of the body, or by using the pressure of a little mercury as well as water. The late Mr. Earle proposed making pressure on hernia by a bladder containing mercury; but without applying the principle of causing the pressure to be exerted on every point of the surface of the tumour, little or no advantage could be expected from such a measure.

This conjoined agency of pressure and cold may be had recourse to in simultaneous combination with several of the other remedies usually employed, even (singular as it may at first appear) with the warm bath, the greater pressure of the cold keeping off the warm water, and thus preventing its injurious local effect formerly noticed. But I have already adverted to the extraordinary neglect that has generally obtained of the principle of simultaneous combination in the application of these means, and to the advantage of classifying them, as an illustration of their compatibility. Had the safer kind of measures been more frequently used in combination, there would have been less occasion to have recourse to those which, from their own action, put the patient's life in danger.

In a case of strangulated omental hernia, in which I lately recommended the combination of cold and pressure, the taxis had been repeatedly tried, and during longer periods than is usual. The hot-bath had been also used for upwards of an hour; but all without avail. On the contrary, the tenderness and irritation of the parts were increased by these measures. Under the action of cold and a pressure of about eighteen inches column of water, the pain and sickness were soon mitigated, and although complete reduction did not take place for some days, no symptom of strangulation continued after the first twenty-four hours.

The combined effect of these two powerful measures would probably quickly diminish, and accomplish the reduction of many of what are called "irreducible herniæ." The means introduced by Arnaud, and at present employed for their cure, are generally too tedious in their action to be persisted in, and many persons are, consequently, condemned, on their abandonment, to pass through life burdened with a great and dangerous inconvenience; for with this affection, the patient is in constant jeopardy, unless he lives as an invalid, and remains constantly on his guard against such muscular exertions and accidents as would convert his irreducible into a strangulated hernia. The extraordinary cures related, as having been performed on the principle of Arnaud's treatment of cases which, from the size and long duration of the tumour most surgeons would have deemed incurable, upon the supposition of the existence of extensive and strong adhesion between the hernial contents and neighbouring parts, ought to encourage us to make new attempts at the alleviation of this common and distressing form of rupture.

I do not anticipate the objection to such a plan as that which I have been proposing, that it requires more skill, and would be more troublesome in the application than the usual methods. No conscientious surgeon would offer such an objection. But in cases where there might be a difficulty of procuring even so simple an apparatus as that described, the practitioner might still advantageously combine cold and pressure by compressing the hernial tumour, as equally as possible, by some folds of sheet-lead, and placing a bladder of ice over it. A more perfect means constructed upon this principle, combining elasticity as well as the power of applying pressure to an unequal surface, and which might be termed an artificial hand, would be a tolerable substitute for the equable and uniform pressure of the fluid.—*Lancet, June* 24, 1843, *p.* 431.

[During the application of cold and the pressure of water above recommended, the patient ought to be kept in the same position, as for the operation of the taxis. But as the recumbent posture could scarcely be maintained during the whole of the period that would be required for the replacement of irreducible hernia, Dr. Arnott recommends to substitute at intervals the equable pressure of condensed air, in the manner proposed by him in an article on the application of fluid pressure to the surface of the body, in

the Medico Chirurgical Review, for 1841. "That part of the Macintosh air-case in contact with the skin, must be thin and of larger dimensions than the outer part, for the purpose of its coming closely in contact with all the inequalities of the surface." Dr. Arnott makes some just observations on the hopelessness with which patients labouring under irreducible herniæ are left to suffer the inconvenience and danger of their situation, during the rest of their lives. "This proceeds from the erroneous notion that adhesions, and not increase of substance or congestion, prevent the replacement of the hernia; and that adhesions, when they do exist, will not yield to any treatment but the dangerous and inadmissible treatment of the knife."]

That pressure steadily applied will cause the absorption of morbid growths or adventitious matter, has been proved by numberless well-authenticated observations and experiments, and is, indeed, a fact now undisputed. The pressure of an elastic bandage has often been advantageously used to promote absorption in chronic hernial tumours; even scirrhous and malignant tumours have been found to yield to it. And that pressure can be much more uniformly and equally applied, as well as more easily controlled, by means of a fluid than by the bandage, must be admitted by every one who will reflect upon the difference between applying a bandage to the top of a globular tumour and keeping this surrounded by, or imbedded in, a bag of condensed elastic air. By these qualities of fluid pressure, the injurious irritation or inflammation which has so often put a stop to the attempt at curing various diseases by other modes of pressure, will be effectually prevented. It is not, however, a very uncommon mistake to suppose that when one mode of treatment is only an improvement on another, and not very different in principle, it cannot materially signify which mode is employed; and yet it would be just as reasonable to expect, in administering a medicine which only fulfils the indication of cure when a certain dose is given, that the same beneficial effect should be produced by the exhibition of a smaller quantity. The instance of irreducible hernia is not, indeed, so good an illustration of this as strangulated hernia, for the diminution of which the pressure of the hand is applied in the taxis, because considerable benefit may be received from only partially diminishing its size; but unless the bulk can be lessened to a certain degree, there cannot be obtained that immunity from danger which the complete reduction of the hernia can alone afford.

The possible effect of the taxis which I have suggested above, in drawing a fresh portion of intestine into the hernial sac, is not likely to occur when the pressure is equally made by a fluid; consequently there would be no opposition from this cause to the salutary force that may be exerted in the contrary direction by the gut within the abdomen. If it be deemed advisable, at any time, to attempt with caution to draw another portion of intestine into the sac, it should be done in a more direct manner than by the unequal pressure of the taxis; and this would probably have been more frequently attempted had it occurred that in the cases where strangulation arises from the gut, which is encircled by the ring becoming inflamed and tumefied, the strangulation would cease were the swollen gut replaced by a healthy portion of smaller diameter. Of course, under these circumstances, the hernia would continue irreducible for some time after the removal of the strangulation; nor would it be proper to endeavour to reduce it soon afterwards; for independently of any such endeavour, the strangulation might be renewed by the lately liberated portion being again drawn into the ring by the action of the intestine in the abdomen, before its tumefaction has subsided to the requisite degree.

The next proceeding which I have to submit for the consideration of surgeons, may be employed when other measures have proved ineffectual, and before adhesions have formed, or the lesion of the intestine is so great as to prohibit any attempt at relief but by the removal of the stricture by "operation."

This proceeding is, to distend, by a copious injection of fluid, the intestine immediately below and connected with the strangulated portion, and thus gradually to withdraw it from the sac. The principle of this practice has already been adverted to when explaining the various modes in which the taxis operates;

and it may be illustrated by a very simple experiment more satisfactorily than by any further explanation. Put a loop or fold of the intestine of a pig between two fingers, and distend it by a syringe, while the fingers are strongly grasping the loop. Immediately on the gut's becoming filled, its loop (representing the strangulated portion in hernia) is gradually but powerfully withdrawn from between the fingers.

In strangulation of the cœcum or colon (the latter of which is the gut most frequently protruded in umbilical hernia), such a mode would afford a speedy means of relief; but where the small intestine is contained in the rupture, the case is materially altered. The injection must then be forced beyond what has been termed the valve of the ileum.

That this has frequently been accomplished, and successfully, for the cure of obstruction in the upper portion of the intestinal tube, cannot be doubted, if the assertions of eminent men as to matters of fact are to be held of the slightest value. Cullen adopted the practice in ileus, on the advice of De Haen, and declares that he found it most powerful and effectual. In a paper contained in the second volume of the "Transactions of the Medical Society of London," Dr. Adair states that he only failed in two out of twelve or fourteen cases in which he had used this remedy. Dr. A. T. Thompson succeeded in two instances.

Other authorities may be adduced on the subject of forcing the valve of the colon. De Haen, in some experiments upon a dog, forced the contents of an injection into the stomach, from which they were injected by the mouth. Abernethy (Lectures, "Lancet," vol. xi.), mentions he had seen cases in which clysters had been vomited, the people living "long and happily" afterwards. Haller (if my memory does not deceive me), mentions the same fact, as also does Heberden, in his "Commentaries;" and if the following opinion of a high authority be correct, there would be little difficulty of injecting the small intestines in the disease now under consideration: "As soon," says Sir Astley Cooper (Lec., "Lancet," vol. ii.), "as any portion of the intestines is strangulated, the anti-peristaltic motion begins; the valve of the ileum is of no use."

There is a figure of a sucking and forcing syringe for copious injections in hernia, given in Latta's Surgery, by which, he informs us, he had injected from one to five pounds; and he conceived that "not only the colon but probably the small intestine lying between the cœcum and contraction was distended." His purpose was to empty the bowels, and thus, of course, diminish the resistance from the abdominal parietes to the return of the protruded intestine or its contents, as well as to excite the peristaltic motion of the intestines, both by stimulating them and removing their distention. Dr. O'Beirne, of Dublin, has modified the operation of injection for the accomplishment of the former purpose, by passing a tube further than is usual into the bowel, and, as appears from his experience, with great advantage. Clysters, as a remedy in hernia, were formerly in considerable esteem, and many instances of success from their use were, doubtless, owing to their action on the principle I have been illustrating. It is to be regretted that the misunderstanding of this, their more important operation, should have prevented the efficacious application of them, and consequently led to their disuse.

If the constricture on the intestine by the ring be not great, the liquid of a copious injection distending its lower part within the abdomen, instead of withdrawing the strangulated loop, would enter it. Such an occurrence would be rare, and could hardly occur if the gut was really strangulated; but where it did occur no mischief would be done if care be taken to preserve a moderate pressure on the hernial tumour. On the contrary, benefit would probaly result from the distention of the neck of the sac. Of course, it would be improper to make the attempt thus to withdraw the intestine from the sac while the strangulated portion is yet evidently much enlarged or distended, or where from the delay that has taken place, there would be objection to traction of any degree, and however produced. Yet how often has it happened that the strangulated intestine has been drawn into the abdomen by the peristaltic action of the bowel within, and the patient thus saved, after the tenderness of the parts and other circumstances have apparently left no other resource but the operation.

It need scarcely be observed that the injection of the small intestine will require a little more art than is usually exercised on such occasions. The first attempts may fail, but the sensibility of the parts will soon be sufficiently reduced to allow of the requisite distention.

On the failure of milder and safer measures recourse must be had to the operation of removing the stricture from the intestine by an instrument directly applied to it. The fibrous band constituting the stricture may either be dilated by stretching or be cut. The latter, which is the only plan now in use, has already been adverted to. The advantages of dilatation over cutting, could it be as easily practised, would be the avoidance of the dangers of hæmorrhage and of wounding the intestine; and, as the opening in the peritoneum would be of less extent and farther removed from the cavity of the abdomen, there would be less danger of its inflammation.

The objections which have been made to the stretching of the ring have referred more to the instruments employed than to the principle itself. These, it has been said, are so bulky that where they can easily be introduced no stricture can exist, and consequently, ruptures apparently so reduced might have been reduced by the taxis; and where force has been used the gut has been exposed to injury from bruising. There is undoubtedly, much truth in these allegations, but methods for fulfilling the indications may be contrived to which such objections would not apply.

Two or more broad flat probes, with wedge-like blunt points, might often be inserted on opposite sides of the intestine, and the stricture be stretched by separating them in a parallel direction, either by the hands alone or by easily contrived mechanism on the principle of the hand-screw. There must be two or more such probes used to prevent any injurious pressure on the intestine; and to this necessity not having been recognised may perhaps be attributed, in some measure, the disuse of the plan. The fluid dilator, which I have endeavoured to introduce generally into surgery, and which is so incomparably superior to other means of dilatation for the extraction of stone from the male or female bladder, as well as for the removal of contractions from the passages, is not so applicable here. In cases, however, where only a little more distention is required than the taxis can accomplish, it might be employed with safety. Its flexibility, little bulk when collapsed, and eccentrical action, are valuable qualities, with respect to such an use of it; and where it could not itself safely produce the necessary extent of dilatation, it might facilitate the application of other measures.

To some varieties of the disease doubtless dilatation would be more applicable than to others; but at present, all cases where the attempt at reduction by pressure fails after the strangulated parts have been exposed by the opening of the sac, however they may vary as to the character of the stricture or the dilatability of the ring, are subjected to the knife.

When the principle of dilating the stricture in hernia was revived in France about the middle of the last century (for it was probably from its obvious nature the original operation), the same principle applied to the extraction of urinary calculus was falling rapidly into disrepute, or, more properly, out of fashion. The remarkable change that has taken place of late years in the manner of performing lithotomy, in which dilatation, so long condemned as a barbarous practice, has now nearly superseded the use of the knife in opening a passage into the bladder, may dispose surgeons to examine a little more closely the validity of the objections that have been made to dilatation in hernia, and to ascertain whether they are the result of sound and unprejudiced reasonings on the subject. Authority is against this practice, but so has it been against a great many practices in surgery that nevertheless were the best that could be adopted; and, without wandering from the subject of hernia, a sufficient example of the worthlessness of mere authority in such matters is conspicuous in the late valuable revival, principally by the efforts of Mr. Key, of Pettit's much condemned operation of dividing the stricture outside the peritoneal sac.

By lessening the danger of the operation and facilitating its performance, the important advantage would, moreover, be gained, of removing the causes of a

fatal delay in having recourse to this final measure amongst surgeons unpractised in operations. There are two erroneous extremes in the management of strangulated hernia: trusting too confidently or for too long a period to other measures than the knife; and on the other hand, having recourse to this before other milder and safer measures have had sufficient trial; but of these extremes the latter may be deemed the less dangerous. (The idea of dilating instead of cutting the stricture in hernia had occurred to me long before I discovered, by a note in one of the later editions of Mr. Lawrence's excellent treatise, that M. Le Blanc had practiced such a method in France nearly a hundred years ago. The comparative results of the plan I cannot state, as I have not the opportunity of reading M. Le Blanc's work; the whole of my information on the subject of the dilatation of the stricture in hernia having been gathered from this note, and a notice of it in an article by the late M. Sanson, in the "Dictionaire de Medicine et de Chirurgie.")

Although the suggestions which I have made of improvement in the treatment of hernia cannot be said to have had their value confirmed by experience, yet as remedial measures analogous to two of the principal suggestions have been in common use, the effects of these, at least, can easily be appreciated by comparison. The mode of causing pressure on the hernial tumour has hitherto been very imperfect. It has not only often failed in relieving, on account of its own inherent defects, but in many cases indirectly, by the fatigue which its application occasions to the surgeon, and the supposed necessity of attending to other measures, obliging him to desist from its use before any benefit has been obtained. Nor has the surgeon been able to employ it at the same time with cold applications to the part, and hence has been lost the combined action of these powerful and perfectly compatible remedies. The great objection that many have urged against delay in recourse to the operation does not hold against this combination; for while the cold will keep inflammation at bay, this and the pressure together must diminish the size of the protruded parts. The proposal of drawing the strangulated part out of the sac by distending the lower part of the intestine in the abdomen, is founded on a principle new to surgery, and consequently does not admit of illustration from analogy; but this is by no means the case with respect to the remaining suggestion of dilating instead of cutting the stricture in the operation for hernia. This practice has, indeed, been opposed by authority (although, as I have said, this is of little account where the judgment is apt to be biassed by prejudices and other influences inimical to the investigation of truth), but authority has been highly favourable to the principle of dilating the hernial stricture when accomplished by other means. For what is the commonly supposed object of the taxis but the dilatation of the constricted ring by forcing the protruded parts against it?—and the fluid contents of the intestine are forced against the closed ring by pressure applied to the hernia, just as an injection is sometimes forced against a constricted part of the urethra in retention of urine. While, therefore, the advantage of dilatation is admitted, when it is produced by one set of measures, surgeons should not be indisposed to examine into the character of its operations when otherwise effected. *Lancet, July* 1, 1843, *p.* 467.

74.—PANNUS; AND THE CURE OF INVETERATE CASES BY THE INOCULATION OF THE MATTER OF BLENORRHŒA.—By ARTHUR B. STOUT M. D.

(Communicated to the Med.-Chir. Society of Edinburgh, by Dr. Hamilton.

[Dr. Robert Hamilton has written this interesting paper on pannus, from notes put into his hands in Vienna, by Dr. Stout, and which embodied a short account of the recent experiments and observations of Dr. Jos. Fr. Piringer and Professor Jager.]

By many, perhaps by most British authors of the present day, pannus seems to be regarded as synonymous with a vascular and obscure condition of the corneal conjunctiva only. In proof of this, we quote beneath the words of Messrs.

Samuel Cooper,* and Tyrrel,† Drs. Littell,‡ and Stoeber,§ and of an able writer in the British and Foreign Medical Review for July, 1840 ‖ To these statements we invite perusal, under the clear conviction that they support the affirmation that the current definition of pannus at the present time, is a vascular and thickened state of the conjunctiva covering the cornea. That any of the authors here quoted would deny that the sclerotic conjunctiva is likewise implicated in the disease, we do not believe; and hence the error is mostly in the way of omission; but it is not on that account the less faulty; and hence, as so much, or entirely, disregarding the morbid condition of the sclerotic and palpebral conjunctiva, we consider it alike unfortunate and inaccurate.

Upon the views of Mr. Middlemore and Dr. M'Kenzie as being more fully expressed, we shall dwell somewhat more at length. According to the former of these gentlemen, the disease called pannus is nothing more than opaque and vascular condition of the anterior membrane of the cornea, almost invariably produced by the continuance of purulent or strumous ophthalmia, or by chronic inflammation of the cornea. This part becomes nebulous, covered with red vessels, and opaque. . . . . Sometimes the sclerotic conjunctiva undergoes a similar change to that which occurs in the corneal portion, but this forms no necessary part of the disease. . . . . The conjunctival covering of the cornea is first affected; in the progress of the disease the infrajacent texture is involved in a similar morbid action, so that in the worst forms of long-continued pannus, the whole, or nearly the whole of the cornea, undergoes those changes which unfit it for the transmission of light; and no therapeutic means which can be employed will have any material influence upon the general structure of the cornea, and consequently will not succeed in restoring vision.—(Treatise on the Diseases of the Eye. vol. i., 497–500). To two of the opinions here delivered we feel constrained especially to object. 1st, to the doctrine "that the affection of the sclerotic conjunctiva forms no necessary part of the disease called pannus; and, 2dly, to the assertion "that in long-continued pannus, the whole, or nearly the whole substance of the cornea undergoes morbid changes." However true these statements may be respecting the history of corneitis, or of corneitis combined with pannus, we believe they are incorrect when applied to pannus itself; and that the able writer has, in this matter, inadvertently confounded things which really differ.

Dr. M'Kenzie again, herein following Beer, describes pannus as a symptom, or rather a constituent part of scrofulous corneitis; in which the conjunctival layer, and the substance immediately beneath that layer are chiefly affected, but in which all the tissues of the cornea may be implicated. Sometimes, says Dr. M., the whole cornea becomes covered with blood-vessels, giving it a red colour, a symptom which is styled *pannus*. With the views of this eminent oculist, so far as they refer to strumous corneitis, we do not interfere; but, as far as descriptive of pannus, we must remark, that they conjoin phenomena, or rather complaints, which are by no means invariably or necessarily associated, and interfere with the recognition of their distinct and separate existence—exhibiting different symptoms, and calling for very different means of relief.

Having thus dwelt on what we consider inaccurate definitions and views of pannus, we turn to what, in a scientific point of view, are the true ones; and shall supply a short description by L. C. Rigler, the assistant of Jager, and chief of the Ophthalmic Clinic in the Josephine Academy in Vienna, drawn up as late as 1842, and yet unpublished. By this distinguished oculist, pannus is

* At present the term *pannus* is applied to any opaque thickening of the layer of the conjunctiva covering the cornea. Surg. Dict. 7th edit., 1838, sub voce.

† *Pannus*, coarse, (cloth) a thick and vascular condition of the corneal conjunctiva. Practical Work, 1840, Glossary, ii., 544.

‡ Pánnus, a thickened and vascular condition of the conjunctiva covering the cornea. Manual, 1840, p. 282.

§ On a appele de ce nom (pannus) un reseau vasculaire forme par les vaisseaux dilates de la conjonctive que recouvre la cornee, et accompagne d'un, epaississement plus ou moins considerable de cet conjonative. Manuel d'Ophth., p. 242.

‖ And first on the word *pannus:* this morbid condition of the conjunctival layer of the cornea, in general so rebellious to treatment. No. for July, 1840, vol. x. p. 36.

defined to be an increased and morbid action (hypertrophy), affecting the sclerotic and corneal conjunctiva; and it is divided into two varieties, P. *tenuis* and P. *crassus*, linked by many intermediate forms. The P. tenuis is, moreover, defined to be hypertrophy of the sclerotic and corneal conjunctiva, without disease of the submucous tissue; whilst in the crassus, carnosaus, or sarcomatous, this submucous tissue is also involved. The leading symptoms of the former variety, Professor Rigler states, are the following:—After a long-continued inflammatory state of the conjunctiva, numerous delicate vessels extend from the sclerotica over the margin of the cornea, and expand themselves in the form of a grayish cloudy opacity, giving to the eye a dull and inexpressive appearance. These vessels increase in number, spread over the cornea, to a greater or less extent, usually running from the superior edge of the cornea downwards. The pupil thus becomes partially or entirely covered, and the iris concealed from view. The leading phenomena attending the second variety are an augmentation of those just enumerated. After obstinate inflammation, a thick tumefied net-work of various vessels is formed, either primarily in the conjunctiva, or as the sequel of the foregoing variety. In high degrees of development the metamorphosis covers the whole cornea, giving to its entire surface a brownish-red colour, and producing numerous granulations. When the disease has proceeded thus far, neither the iris nor vessels can be distinguished, and the cornea appears to be involved; and if neither nature or art arrest it, the sclerotic conjunctiva, especially in lax leuco-phlegmatic habits, becomes covered with a growth of pale red granulations, so called, almost insensible, but easily bleeding, which are so numerous that they sometimes appear confluent, encroaching upon the cornea, until they totally cover it. Their increase separates the lids from the eye-ball, sometimes everting them. In this way a simple pannus may be mistaken for a medullary sarcoma; and the more so as the separation of the brown crusts which form on the surface, frequently occasions considerable hæmorrhage. Experience, however, proves that in this affection of the conjunctiva, the cornea often participates but little, and in the greater part of its depth remains quite transparent.

In the graphic descriptions of these eminent Germans every one the least acquainted with English ophthalmic surgery, will at once recognise a complaint which has much engaged the attention, and excited the warmer feelings of many distinguished British oculists and surgeons. It was forced upon the attention of the profession and the public, as one of the most important sequelæ of the Egyptian ophthalmia, which produced such devastation among our troops, and frequently in civil life. It gave rise, moreover, to much keen discussion, and has not yet ceased, under the name of granular state of the eyelids and opacity of the cornea, to be regarded as one of the *opprobria medicinæ*.

[Mr. Lawrence seems to be almost the only British writer on this subject, who has clearly defined the disease—]

In that chapter which treats of "purulent ophthalmia in the adult," and in that section which discusses the treatment of the diseased palpebral conjunctiva in the chronic state, he states:—"when purulent ophthalmia has been neglected, or insufficiently treated, and when the eye has consequently been repeatedly inflamed, the palpebral linings became thoroughly altered in structure, and we cannot be surprised that it should be difficult, and, indeed, hardly possible to restore their healthy state. This condition of the parts has been called by English writers, the granulated state of the eyelids . . . a very important effect of which is vascularity and opacity of the cornea. The mechanical friction of the granulations, on the surface of the cornea, causes its vessels to be enlarged, so that the texture of its conjunctival layer is loosened and thickened; hence haziness, a nebulous state, or more considerable opacity is produced. The following is the order of the events. First, disease of the palpebral lining; 2ndly, acute inflammation of the conjunctiva; 3rdly, full development of the granular surface, then thickening and hardening of the membrane; 4thly, vascularity and opacity of the cornea; the morbid change is frequently confined to the upper half of the cornea, that is to the portion over which the rough surface of the upper eyelid moves; whilst the lower half remains trans-

parent; but the vascularity may proceed to the extent of covering the cornea with a net-work of red vessels; and its mucous covering may be so loosened and thickened, as to exhibit the state technically called *pannus*, in which the boundary of the cornea can hardly be seen."

It thus clearly appears that the term pannus, so generally abandoned and misunderstood by British authors, is an appropriate and approved appellation for that most troublesome and well-known disease, which we are in the habit of designating by the periphrase—vascularity and opacity of the sclerotic and corneal conjunctiva, from a granular state of the lining membrane of the eyelids;—the granulations here spoken of being nothing more than a morbid enlargement of the natural villi.

[We need not here refer to the keen controversy which some time ago existed, respecting the treatment of this disease. It will be sufficient to state that it has always confessedly been one of the most obstinate diseases which we have to encounter, and we are, therefore, the more willing to try any remedy, which in other hands has been more successful. This seems to be the result of inoculating the conjunctiva with the matter of blenorrhœa.]

If we have an opportunity of treating from the commencement, or in its earliest stages, either the violent purulent ophthalmia, or the milder muco-purulent one, and in the former instance, have seen the organ safely brought through the imminent peril of rupture and disorganization, and in both, have an opportunity of treating early the slower and insidious process usually styled that of granulation producing opacity of the cornea, in other words, pannus—then our hopes of a successful issue may be high and satisfactory; but, on the contrary, if these disorders have proceeded unchecked, and the pannus has made considerable progress, and become at all permanent, then we fear that all the common resources of the art will be found alike futile and unavailing. This, from the very nature of the circumstances, is the character of those cases in which such oculists as Jager and Piringer resort to the practice now to be considered; and such is the only class of cases in which the method is here recommended for adoption.

The Egyptian ophthalmia, in its most violent as well as milder forms, and gonorrhœal ophthalmia, from the direct introduction of urethral matter, and the ophthalmia neonatorum, should all be regarded as only varieties of one and the same disease, produced by one and the same morbid poison, and yet that this disease, so rapid in its course, and destructive in its consequences, should wittingly and of express purpose be proposed and employed as a remedy for the removal of another, not only implies that this latter should be most serious, and otherwise all but irremediable, but exhibits likewise in its successful issue one of the most striking instances of human ingenuity, and one of the greatest triumphs of the art.

[From the accounts of Dr. Piringer and Professor Jager, we find that 145 cases have been treated, and out of this number only seven cases were unsuccessful.]

In the great majority of cases, the affection pervades both eyes; and it must ever carefully be seen to, that the pannus is complete—that is to say, covering the whole cornea, and not partial only, because the remedial process affects very differently the diseased and the healthy cornea, risking and injuring the latter as much as it benefits the former.

The contra-indications, if we would look for any thing like uniform and complete success, must be thoroughly understood and carefully observed. The incompleteness of the pannus, as just stated, is one. We must also discriminate, as before hinted, between this disease and conjunctival xeroma—the cuticular conjunctiva of Travers—the xerophthalmus of Beer, a disease in which the conjunctiva is always drier than usual, and appears as if skinned over, and in which the secretory structure of the parts appears altered, and its powers of forming mucus either partially or entirely lost; here the treatment by inoculation has no remedial powers. But by far the most important contra-indication is the existence of any dyscrasia, or bad habit of body, especially struma, also gout, rheumatism, syphilis, and such like. We are about voluntarily to subject the frame, and especially the delicate organ of the eye, to a disorder which will prove more

or less urgent and severe, and if the general health be not tolerably good, and the vital power considerable, then we have no right to expect aught else than destruction of the organ we wish to restore. The general health, therefore, should never be below par. Neither is this process a remedy for opacities of the cornea, including leucoma, over which diseases it has no power; and if they are complicated with pannus, while this latter is cured, the others remain. This remark naturally extends to various other abnormal complications, which continue as they were; whilst it is no doubt true, that some of them are placed by the process under much more favourable circumstances. Thus it is with cases complicated with cataract, and with closure, or adhesion, of the iris, which previously could not be detected, but which after this treatment may be removed with as much prospect of success as if no pannus had preceded. One other point must be attended to, namely, that when the functions of the sensitive parts of the eye have been for a time suspended, then it is to be expected that they will gradually be weakened, and finally extinguished. The time required for the complete destruction of the nervous sensibility varies, and does not appear to be satisfactorily ascertained. It probably ranges from between two or three to four or six years; and if the obstructing cause has continued until nearly the latter of these periods, it ought to be explained to patients, that such cases are not so favourable, as if they had sooner applied. At the same time, it is a fact, that often, under the renewed stimulus of light, those powers and parts which had so long remained dormant, are sometimes wonderfully excited again to their normal condition.

The virus should be selected from a case of mild blenorrhœa; which will readily be found in an example of ophthalmia neonatorum, a mild case being preferred. Should a case of this description not be within reach, then, by diluting the discharge of a more acute disease with water, or by exposing it for a longer or shorter time to the air, its virulence will be lessened; while, by regulating the quantity introduced into the eye, the result will still further be modified. It is evident that we should at first proceed with caution, and err rather by underdoing than overdoing. If we fail once, no harm is done; and the virus may be applied stronger and more largely on another occasion. The more speedily the inoculation begins to take effect, the more violent are the symptoms likely to prove; and the more decided should be the remedies, if it becomes necessary to use any. Even when thus cautiously produced, the disorder must be carefully watched, and judiciously regulated. A thick, firm, fleshy pannus requires, for its dispersion, a higher degree of the sanative inflammatory action than a thin and less organized one. If then the disease prove mild and favourable, we should not interfere. If, on the other hand, the action threatens to be excessive, endangering the eyeball, local depletion, and if necessary, general, together with the usual constitutional remedies, and the local, especially cold or iced water, must be had recourse to. That the remedy is a severe one is undoubtedly true; but there are few who have the misfortune of labouring under the complaint, who are not found willingly to submit to it. We need scarcely add, that the disease excited in the eye affected with pannus, runs its course much less violently than when it attacks the healthy eye. It frequently leaves the cornea perfectly clear and transparent in the course of ten or fourteen days, although it often requires a longer period, extending, on an average, according to Jager, to about six weeks. And it is most satisfactory to know, that so far as the past experience of the method has proceeded, no case has occurred in which the morbid action has extended to the deeper seated parts of the organ; nor has it ever produced those disastrous effects which are so often witnessed after attacks of the healthy eye, such as suppuration, bursting, and evacuations of the humours. In fifty-nine of Dr. Piringers sixty-one cases, not one was injured in the slightest degree.

As exhibiting the operation of the remedy, we shall here give an epitome of a few of Dr. Piringer's cases:—

1. A man, aged 53, had thick fleshy pannus of both eyes, of two years' standing, so that he could not at all perceive the light. In the year 1825, he was treated in the Vienna Hospital for the Egyptian ophthalmia; pannus, notwith-

standing, followed, and in 1827 he was totally blind. In the year 1829, he was inoculated with the matter of a gonorrhœal ophthalmia, from a patient who had accidentally introduced the matter from the urethra into his own eyes. In forty-eight hours a very severe inflammation was fully established. As the patient had a cachectic habit, cold applications only were applied to the eyes. In two weeks he was able to discern objects; but eighteen months elapsed before he was dismissed in good health, and with perfect vision.

2. This second case exhibited an old pannus of two years' continuance, along with considerable inflammation, lacrymation, and mucous discharge. For six months the whole armoury of pharmaceutical means was employed, with only slight and temporary improvement, so that they were given up in despair. Inoculation with the fresh matter of a simple blenorrhœa was now had recourse to, and in twenty hours acute blenorrhœa was developed. After eleven weeks, the cure was so perfect that the eyes appeared as if they had never been diseased. After the lapse of eight years, they remained in the same satisfactory condition.

3. The next case we notice is that of a student aged 18, who had one eye affected with pannus, the right, the other being quite healthy. The pannus was thick, with a central opacity, surrounded with a lymph-like exudation. The more usual treatment was employed for five weeks with all solicitude, but without any benefit. Inoculation with the matter of simple blenorrhœa was then had recourse to; and in eight weeks, after a mild inflammation, the disease was entirely removed. The central corneal opacity still remained, impeding vision; and this defect was removed by a slight artificial enlargement of the pupil. The left eye, being carefully protected from accidental inoculation, entirely escaped.

4. Dr. Piringer also reports a case in which the inoculation was repeated no less than five times. The patient was a man, aged 47, who had for several years been afflicted with obstinate ophthalmia, the sequela of the true Egyptian, together with thick fleshy pannus. The first inoculation failed, producing no apparent effect. The second excited only slight and temporary irritation. The third operated very efficiently, was fully effectual, cured the chronic blenorrhœa, and reduced the pannus to the consistence of a thin membrane. The fourth diminished the pannus still more, so that light became visible, and the iris apparent; whilst the fifth inoculation removed all external disease. We adduce this case, not so much from the attending success, which, though slow, was sure, as for the purpose of demonstrating that the process of cure is not so insufferable as might at first be supposed; and that patients will readily submit to it, in the anticipation of having their sight restored.

An unexpected and very striking illustration of that curious and obscure subject, known as the sympathy existing between the two eyes, more especially in their morbid condition, has presented itself during the history of this method of treatment, and must not here be omitted. That the diseased state occurring in pannus materially alters the organic character of the conjunctiva, and the parts immediately connected with it, and also the susceptibility of these parts to disease, cannot be doubted. Accordingly it was remarked, that if the inoculation was confined to the diseased eye, pannus existing also in the other, in a few days after the commencement of reaction in the former, the latter also took on the same action, and both the panni were alike cured. But when one eye only was affected, it was long feared that the destruction of the healthy eye would be the consequence of the inoculation of the diseased one; and the progress of improvement for a time was on this account retarded. Professor Jager, however, on mature reflection, came to the conclusion, that this inference by no means necessarily followed. He boldly, therefore, inoculated the diseased eye, inducing the process which restored it to its normal state, and found that the healthy eye remained unscathed throughout the treatment. And now the rule is this, that when both eyes are affected, the inoculation of the one suffices for the cure of both; whilst when one only is diseased, there exists no sufficient reason for declining its cure; all that is required being, that the measure of care necessary when only one eye is attacked with gonorrhœal ophthalmia, shall scrupulously be observed in this case also. By due care it does

not spread in the former instance, and no more does it in the latter. Cases not unfrequently present themselves in which one eye only is affected, the other being healthy; and the patient is annoyed, not so much with the loss of sight, as with the unseemly deformity under which he labours: and such is the uniformity of success, that a case of this kind may be fearlessly undertaken, with every prospect of the most favourable result.

Should an attack in the healthy eye unfortunately supervene, it is to be treated with the utmost promptitude and care; and, upon the principles lately so ably inculcated for the treatment of violent purulent ophthalmia, by Mr. Tyrrell, we hope the success will be greater than has hitherto been noted in the annals of surgery.

Lond. and Edin. Mon. Jour. of Med. Science, July, 1843, *p.* 550—556.

76.—ON INJURIES OF THE IRIS AND ON ARTIFICIAL PUPIL.—By J. B. Estlin, Esq., F L.S., Bristol.

Thirty years of experience in rather an extensive field of observation have strongly impressed upon my mind the remarkable power of the iris to bear injuries without destructive inflammation of that membrane, or to other textures of the eye. The highly vascular and nervous structure of the iris would lead to the expectation *a priori*, that no injury could be inflicted upon it without giving rise to serious and disorganising inflammation, but I have seen almost every possible kind of violence done to it with no more important consequence than such as the direct mechanical injury, produced at the moment of the accident, has occasioned. These accidents consist of lacerations of this membrane, cuts, punctures, separation from its attachments, together with protrusion through wounds of the cornea and sclerotica, and through openings occasioned by perforating ulcers of the cornea, in nearly all of which herniæ of the iris, the prolapsed portion becomes united to the wounded part.

In the extraction of a cataract, the greatest caution is exercised, ordinarily, by operation to avoid wounding the iris, and an insufficient section of the cornea has often been the consequence of extreme carefulness on this point. Mr. Guthrie has endeavoured to mitigate the apprehensions of surgeons with respect to the ill effects of such accidents, and advises that a portion of the iris should be incised by the knife while passing through the anterior chamber, if the tendency of the iris to fold over the knife cannot be prevented but by withdrawing the instrument.

My own experience leads me to similar conclusions; simple incised wounds of the iris, or those where a small portion has been unavoidably cut off, I have never found to lengthen the period of recovery, to give rise to iritis, or to produce subsequent inconvenience.

The liberties that may be taken with the iris is a matter of great importance with reference to the operations for artificial pupil. I am inclined to believe that many persons with extensive opacities on the cornea, especially in cases where suppurative ophthalmia has pre-existed, are condemned to perpetual blindness, to whom a valuable degree of vision might be given by the removal of the iris opposite any clear portion of cornea that may be left. In every case of the kind, where there is no useful sight, if any of the cornea is clear, and the eye be otherwise healthy, the operation ought to be tried; and I have been surprised to find with how small a portion of cornea remaining transparent, a person may have a degree of vision to some extent useful, and, in a great degree, a source of comfort to him. And in such cases I prefer the operation of tearing away a portion of the iris, and cutting it off. A small section is made in the cornea near to the clear portion, the iris drawn out with a hook or forceps, and as much cut off as is practicable. Care will be necessary in this operation to avoid injuring the crystalline capsule.

I have remarked a circumstance of a very curious nature in reference to the pupil in cases where this aperture can be of little use, if it exist in its customary position, near the centre of the iris. The fact has been presented to me under so many different forms, that I can have no doubt upon the subject, though I have not seen any intimation of the kind in writers on ophthalmic

surgery. I am, therefore, desirous of suggesting the point to the attention of those medical men especially who have peculiar facilities of observing diseases of the eyes.

What I refer to is, *the efforts of Nature to form a pupil at that point of the eye where it will be most useful.* In examining eyes where central opacities of the cornea existed, I have been repeatedly struck with the appearance of the pupil, which I have observed to be of a long, narrow shape, as if the longitudinal fibres of the iris had been split for the purpose of producing an aperture exactly opposite the clear portion of cornea, so as to be in the most suitable part for distinct vision. I was inclined to attribute this to some accidental circumstance; and when it existed in persons in whom the opacity of the cornea was occasioned by external injury, I supposed it to depend upon the fortunate coincidence of a wound on that part of the iris at the time when the original injury was inflicted. But having remarked with much interest, in operations for artificial pupil, that an aperture in the iris, made at some little distance from the clearest portion of the cornea, will in time extend itself so as to be exactly in the position I at first designed and wished it to be, I can have no doubt that occasionally, in other cases of opacity from disease, Nature endeavours to remedy the evil by a similar effort. I am so satisfied of this fact as regards operations, as to have no hesitation in declaring it, under the hope that others may be able to verify it by their own observations.

[Mr. Estlin describes a mode of making an artificial pupil, which he has practised for many years. It is done with a small knife used originally by Sir W. Adams, called an iris-knife, and figured in Makenzie's work. It has generally been used by being introduced behind the iris through the sclerotica, and then pushed through the iris into the anterior chamber. Mr. Estlin says—]

I have been accustomed to use this little instrument differently, inserting it through the cornea, near the temporal canthus, close to the sclerotica, with the flat part of the blade towards the iris. The instrument being passed through the anterior chamber to its nasal extremity, the handle of the knife is turned a quarter of a circle, so as to bring its cutting edge against the iris, and it is then withdrawn by a quick movement, that depresses the point of the instrument upon the iris, so as to make a horizontal cut across that membrane.

I have found this mode of making an artificial pupil particularly successful in cases where the natural pupil has closed after extraction of the cataract. I have operated upon many persons so circumstanced, and have in an instant relieved all the disappointment of the patient and myself, at the apparent failure of an operation, in the result of which both were much interested. Of course a circular and handsome pupil cannot be insured by this proceeding, though such will often be the result; but I am inclined to believe that those surgeons whose engagements have led them to deal much with cases of closed pupil, will be very thankful, as I am, to see a good hole in the iris, whatever its size or shape may be. I have seldom known any inflammation result from this method of dividing the fibres of the iris.

To one class of cases of fixed and nearly closed pupil, with cataract, this operation is peculiarly appropriate; indeed, more so than any other I am acquainted with. I have succeeded in giving very useful vision in such instances, where little hope of success had been entertained by other surgeons, or myself. I refer to those patients in whom chronic inflammation of the iris has accompanied the formation of cataract, where only a little pupillary aperture is left, and that of an irregular shape, the iris being apparently thinned, and its posterior surface glued down to the opaque crystalline capsule, often with portions of detached pigment tinging its surface, and the eye possessing so low a perception of light, as to excite much apprehension of the existence of amaurosis. I would wish it to be clearly understood that in all the cases I am speaking of as fitted for operation, I presume that the patient is totally blind, for, while useful vision exists in one eye, I rarely advise any operation upon the other.

In such hopeless cases, then, supposing all inflammation and headache long

to have subsided, the operation I am describing is well worthy of trial. It is to be performed exactly as before detailed. The cataract behind is often solid, and affords a good resistance to the knife in cutting the fibres of the iris. It is uncertain what will be the effect of the sudden incision. I have sometimes by one cut divided the fibres of the iris, and displaced the cataract, so that a clear pupil was instantly produced, and a sudden blaze of light let in upon the retina, quite astounding to the delighted patient. At other times a permanent aperture in the iris will be made, of sufficient extent to allow of a thorough view of the opacities behind the pupil, and to admit of future operations with the needle for their removal, either through the cornea or sclerotica. I lay claim to no credit for this operation, having seen Mr. Alexander perform it thirty years ago; but I am not aware of its being described in any works upon diseases of the eye.—*Prov. Med. Jour. Aug.* 26, 1843, *p.* 441.

77.—DIVISION OF THE CORNEA IN THE OPERATION FOR CATARACT.—By JOHN SCOTT, Esq, Senior Surgeon to the London Royal Ophthalmic Hospital, &c.

[Mr. Scott has published a good little pamphlet on cataract, in which he describes a new knife which he has found useful in dividing the cornea. He considers that the chief difficulty and danger in extracting cataract arises from the force that is necessary to transfix the cornea with the instruments commonly in use, and although we cannot quite agree with him in this opinion, we think his knife likely to be very useful. He describes it as follows:]

The back of the knife describes a sixth part of the circumference of a circle, the radius of which is ten lines. The chord of the arc formed by the back of the knife, is, of course, also ten lines in length, being equal to the radius of that circle. The knife is two lines in width at the heel, whence it gradually tapers to the point; it also increases uniformly in thickness, as well as in width, from point to heel. (See an engraving in the "Retrospect" at the end of this volume.

[The knife has its convex edge sharp on cutting, and its concave edge the reverse.]

Mr. Scott most justly observes, that the great objection to the knives of Wurzel and Beer are, that they act both as a wedge and a cutting instrument at the same time, in consequence of which the force employed in thrusting them through the anterior chamber tends to turn the eye inwards "to the nasal canthus of the orbit, whereby the inner side of the cornea is obscured from the view of the operator; he is unable to puncture it close to its sclerotic margin, and, in consequence, the section is too small for the escape of the cataract." To correct this tendency to inversion, when the wedge knives are used, pressure is often had recourse to on the nasal aspect of the globe, and, between the two stools, it often has happened that the lens, vitreous humour, and all, have come to the ground—a feat which has been performed before now in simpler operations than those for cataract. "Scott's knife" is intended to make the necessary section of the cornea for the exit of an opaque lens, without being open to the faults of the other knives which we have mentioned, and, at the same time, with greater security to the iris than they afford. These proposed objects in the construction of the instrument are thus numerically stated:

1. That it shall be of sufficient length to traverse completely the anterior chamber, and divide the nasal margin of the cornea.

2. That it shall increase in width and in thickness from point to heel, enough only to prevent the escape of the aqueous humour in its transit across the anterior chamber, but that its width shall have no reference to the dimensions of the section that is to be made, as that circumstance, I conceive, has occasioned all the difficulty of its introduction, and the chief danger of the operation.

3. That it shall be of such a shape and figure, that when introduced in the middle of the temporal margin of the cornea, and carried across the anterior chamber, it shall readily puncture the nasal side of that membrane; and when placed in this situation, the cutting edge shall be so far beyond the pupillary margin of the iris, and opposed to so large a portion of its anterior surface, as

will prevent its escape beneatn the edge of the knife to endanger its division in making the section of the cornea.

4. That when the section of the cornea is thus about to be made, the edge of the knife shall be opposed only to the margin of the section on either side, and not to an extensive portion of its internal surface, whereby its division would be attended with difficulty, as is the case in using Beer's knife.

Prov. Med. Jour., Aug. 19, 1843, *p.* 430.

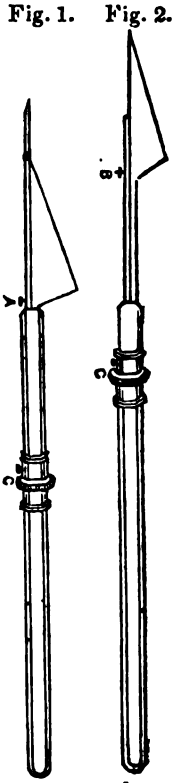
73.—MOVEABLE NEEDLE-KNIFE, FOR SECTION OF THE CORNEA.—By WILLIAM MACKENZIE, M. D., Surgeon to the Glasgow Eye Infirmary, &c.

[In a case of lenticular cataract lately published, Dr. Mackenzie divided the cornea with the moveable needle-knife first invented by Palluci (1763). There are two sorts of needle-knives, the *fixed* and *moveable*.]

It was from Palluci's moveable needle-knife that I took the hint to have the one made with which I operated on Wylie. I omitted the groove along the lower edge of the needle, as I thought that was likely to allow the aqueous humour to escape; but in other respects there is no essential difference between the two instruments. The needle part I made broader and longer; broader, so that in transfixing the cornea with it I might accomplish a certain considerable portion of the section; longer, that there might be less risk of the point of the needle slipping out of the nasal part of the cornea when I came to push on the knife. Palluci's knife was convex on the edge; I made mine straight, exactly like Beer's knife, that it might traverse the cornea with the least possible resistance.

Figure 1 shows the knife I used, reduced one third, with the knife retracted, and its cutting edge directed upwards, as it will be held when the operator means to open the upper half of the cornea. Figure 2 shows the knife pushed forwards, as it is when the section is completed. The nail, A, screwed into the back of the knife, serves to keep the edges of the needle and the knife in contact, and travels along a slit to B. The thumb, pressing on the verrouil, C, moves the knife forwards, in making the section. The following are some of the advantages which appear to attach themselves to such a moveable needle-knife: 1. It is much easier to traverse the anterior chamber with a needle than a knife. 2. It is much easier to perform the counter-puncturation o the cornea accurately with a needle than a knife; and how much depends on counter-puncturating well, every operator is aware. The size and form of the section, depend, in a great measure, on exact counter-puncturation. 3. There is less risk of the aqueous humour being evacuated in traversing the cornea with a needle than with a knife. 4. The cornea being transfixed by the needle part of the instrument, the knife moves along a director, with perfect steadiness and certainty, and completes a regular section of the cornea, at a definite distance from its edge.

Fig. 1. Fig. 2.



The chief disadvantage attending the use of a moveable needle-knife (and which, though it did not occur in the least in Wylie's case, I have experienced on some subsequent occasions), is, that the pressure necessary for moving on the knife to make the section, is apt to be accompanied with a retrograde movement of the needle, so much so that it slips out of the nasal side of the cornea, and allows the aqueous humour to escape. This danger may be partly obviated by having the instrument exceedingly well finished, so that the knife moves sweetly along the needle, and yet is not at all loose or unsteady. It is difficult to adapt the two pieces, of which the instrument consists, to one another with perfect accuracy, and yet slide along each other with the necessary freedom.

It occurred to me, soon after I began to try the moveable needle-knife, that if, instead of the needle and the knife forming part of the same plane, they were placed side by side, the motion of the knife might be rendered steadier and easier. I was confirmed in this notion by the examination of an instrument, invented by Dr. Louis Stromeyer, for artificial pupil, and called by him a *korectom*. It is, in fact, a needle-knife, the mechanism of which is extremely neat and well finished. I therefore ordered a needle-knife to be made, pretty much like Professor Jager's double knife, only that instead of two knives running side by side, there was to be a needle and a knife. The instrument, so modified, I have hitherto had no opportunity of trying. I may mention, that Dr. Stromeyer's instrument is a knife for at once making a section of the cornea, and cutting out an artificial pupil. He describes and figures it in a pamphlet, published at Augsburg in 1842, and entitled "*Das Korectom.*" The needle is grooved along the side which regards the knife, for the purpose of allowing the aqueous humour to escape, and the iris to fall forwards, so as to be divided by the knife, which, on being pushed on, makes a section of the cornea, and cuts fairly out a piece of the iris. Of its merits as an instrument for thus forming an artificial pupil by central excision I can say nothing. For the sight of Dr. Stromeyer's instrument, and the pamphlet in which it is described, I am indebted to my friend Dr. Hamilton, of Edinburgh.

The chief objection to a needle-knife for making the section of the cornea in extraction, in which the needle and the knife do not lie in the same plane, but side by side, will be the thickness of the instrument, and the danger, that, by its thickness, it may press so much on the aqueous humour, and through the aqueous humour on the lens, and through the lens on the vitreous humour, as to cause rupture of the hyaloid membrane before the section is completed, so that just as the section is finished the lens and part of the vitreous humour bolt together out of the eye. This is a danger which attaches itself even to a common cataract-knife, if it be too thick, if the aqueous humour be not allowed to escape before finishing the secretion, and especially if the subject be old, and the hyaloid membrane weak. How much more likely will it be to occur, if, to the ordinary thickness of a cataract-knife, there is added that of a needle!

Some time after I had given an order to the cutler for a new needle-knife of the kind last mentioned, I met with an account, in the *Annales d'Oculistique* for April, 1843, of an instrument exactly similar, the invention of Professor Blasius, of Halle. Having made the puncturation with the needle, he follows the plan of Wenzel, dipping the point of the instrument into the pupil, and opening the capsule; he then effects the counter-puncturation, pushes on the knife, and completes the section. The lens often follows, we are told, without any pressure on the eye, and of course without the introduction of any second instrument for the purpose of performing what is commonly called the *second* period of the operation. The supposed advantages of conducting the operation in Professor Blasius's way, and with his needle-knife, are set forth in a thesis by Dr. Van den Porten, entitled, *Dissertatio de Cataractæ Extractione, adjecta nova extrahendi ratione.* I may notice, that, as Professor Blasius always keeps the needle towards the iris, he requires two instruments, one for the right and another for the left eye, whereas the needle-knife with which I operated on Wylie answers for either eye. *Medical Gazette, Oct. 6, 1843, p. 27.*

79.—PRESSURE BY CONDENSED AIR AS A SURGICAL REMEDY.—By GUSTAVUS KRAUSS, M. D.

[There is no doubt that pressure, when properly applied, may be made one of the most powerful means of cure in the hands of the surgeon; but we cannot say how far the following methods of applying it will be practised by British surgeons. Dr. Krauss, however, seems sanguine of success.]

Modern surgery has shown the advantage of mechanical pressure in various diseases—the cure of inflammation and enlargement of the testicle, of tumour albus, and of ulcers by this remedy, fully proving its value.

Up to this time pressure has been made with solid substances, such as strape

of plaster, German sponge, plates of lead, &c. Last autumn I used the method of strapping in a case of enlargement of the testicle, but I met with some difficulty in the application; the straps, when put on tightly, caused unbearable pain, and, if loose, the testicle escaped; at other times, even when they seemed to fit well, the circumference of the testicle and scrotum diminishing, the testicle escaped soon after the straps had been applied.

Not unfrequently experiencing these inconveniences, and reflecting how they could be removed, it occurred to me that in many cases nothing but pressure by condensed air would answer the purpose. I have been using for some time, with great advantage, small air-cushions, to diminish the effects of pressure in the application of machines for the cure of club-foot, and this has led me to the idea whether it was not practicable to surround the swollen testicle with an air-cushion, so as to exercise a voluntary degree of pressure. I caused the air-bag to be made which I have the honour to present herewith to the academy. It consists of two bags of air-tight material, one hanging in the other, and both narrow on the top, to surround the spermatic cord. Each bag is open on one side, from the top to the bottom, and they are attached to each other by their corresponding edges, so as to leave between them an air-tight space, accessible only by means of an air-tight screw, fixed to the bottom of the outer bag. Along the side-opening are holes to lace the double bag, previously to its being inflated, around the testicle, and it is subsequently filled with air by means of a simple air-pump. The inside bag is thus uniformly pressed against the whole of the scrotum contained in the air-bag.

On the swelling of the testicle decreasing, more air can easily be introduced, or, on the other hand, if necessary, the degree of pressure can be reduced by allowing part of the air to escape. By this means the patient can himself regulate the pressure, and accidents, which were observed in some instances to arise from the application of straps, are not to be apprehended. To prevent the contact of bag and skin I place the testicle first in a linen compress, and use wadding or flannel, to prevent the scrotum from being irritated by the neck of the bag. In several cases I applied pressure by condensed air with success, and was subsequently induced to extend it to various other diseases.

First. I had an air-bag made in the shape of a cylinder, to replace the solid bougie, for dilatation of strictures in the rectum, or to be used after the operation of fistula ani. The air-bag, covered with oiled silk, is introduced when not filled with air, by means of a small solid bougie, which is withdrawn, to inflate the air-cylinder subsequently.

Second. A similar air-cylinder may be employed in blenorrhagia of the vagina, to prevent the contact of its walls. Dr. Ricord proposed in these cases the use of an India-rubber cylinder pierced with holes.

Third. The solid pessary will be replaced with advantage by an air-bag, with screw of corresponding shape. The screw is fixed in a kind of recess of the bag and turned by means of a key, the other end of which (latter) fits the air-pump. The air-pessary seems well adapted to maintain the abdominal viscera in their natural situation, and can be applied of larger dimensions than a solid one, as it admits of inflation after being introduced.

Fourth. An air-bag of this description will be a more proper means for "tamponnement" in hæmorrhage of the uterus, than the mechanical remedies used at present, as it produces a more uniform pressure, and is applicable with greater facility and speed.

Fifth. In diseases of the joints, where pressure is indicated as a curative means, it can be applied with propriety by a simple air-bag, corresponding in size with the circumference of the joint. The bag is so constructed that it can be laced around the part, when not filled with air, a voluntary degree of pressure being produced by subsequent inflation.

Sixth. In perforation of the roof of the palate I expect that a simple air-bag, with screw, will form a cheap and useful obdurator.

Seventh. I am at present engaged in ascertaining how far pressure, by means of air or water-cushions (which latter produce a similar effect), can be applied for the cure of ulcers. Further, I believe that many tumours which are at pres-

ent considered to be eradicable only by the knife will disappear under the influence of pressure, provided it be applied in such a manner as to act with equal power upon all parts of the surface, and gentle enough neither to irritate nor inflame the parts in relation. Time and opportunity do not allow me further to investigate the subject at present, I therefore conclude by directing attention to the application of air and water-cushions to diminish the pressure that artificial legs frequently produce upon the stumps to which they are applied.

Lancet, Aug. 26, 1843, p. 765.

60.—CHLORATE OF POTASH IN CANCRUM ORIS.—By HENRY HUNT. M. D.

Cancrum Oris has been described as a disease, as mild in character as the phagedæna of the cheek is severe. When, however, the former has been neglected, it frequently becomes so similar to the latter, both in appearance and in the extent of its ravages, that they have appeared to me to be one and the same disease, only differing in the degree of severity, but depending on the same morbid condition of the body. To prevent my being misunderstood as to the disease over which I have found this remedy to possess such power, I will briefly describe it.

It commences by small ulcers, either on the inside of the cheek, or at the point of conjunction of the mucous membrane of the cheek and gums, or in the gums themselves, separating them from the teeth: they are very tender and painful, and attended with profuse salivation; the breath soon becomes tainted with an offensive smell, not unlike the mercurial fœtor: if the disease is neglected, the ulceration goes on to destroy the gums, the teeth loosen and fall out, the alveoli are laid bare; at the same time the brown ragged ulcer spreads rapidly on the inside of the cheek, the integuments over the spot corresponding to the ulcer become hard, swollen, at first white and afterwards of a dull red colour, and shortly a black spot appears in the centre, which quickly spreads and destroys more or less of the cheek; and if the child survive, it is sadly disfigured, and not unfrequently loses the power of opening its mouth, from the unyielding nature of the cicatrix; but more commonly, if the disease has extended its ravages to this extent, it sinks and dies.

In all cases that have fallen under my observation, it has been quite clear that the mortification of the integuments has succeeded to the ulceration of the internal parts; for when my attention has been called to the hard, swollen, and painful state of the cheek, as if that were the only disease, I have invariably found on examination, the brown ragged ulcer on the inside; the contrary, however, appears to be the case in the account given of it by Mr. James, in his work on inflammation, for he writes, "that the ulceration of the gums succeeds the swelling and hardness of the cheek," and Dr. Marshall Hall's description, in the Edinburgh Medical and Surgical Journal, agrees with that of Mr. James; for he states, "that children are liable to a particular affection of the face, which *begins* with pain, hardness, swelling, and slight erythematous redness, and terminates in the formation of a spreading eschar and ulcer." Whatever difference there may be in the commencement of these diseases, in their advanced and aggravated state they become so similar that it would be difficult, if not impossible, to determine in which of the two ways each individual case had begun. The general appearance of the children afflicted with these diseases was extremely unhealthy, they were pale and cold, their flesh flabby and soft, and the secretions very offensive and unnatural. Before giving the chlorate of potash, when it has been possible to induce the child to swallow an aperient, I have given in the first place a dose of rhubarb and sulphate of potash with a grain of calomel; but generally the pain and tenderness of the mouth has been so great that it has not been feasible. I have, therefore, given the chlorate at once, and have waited a day or two, until the mouth has become less tender, and then have ordered the aperient. The quantity of the salt that I have been in the habit of prescribing varies from twenty to sixty grains, according to the age of the child, in divided doses in twenty-four hours, dissolved in water; the beneficial effect is often observed on the following day, almost always on the second; the disagreeable fœtor soon lessens, the sores put on a healthy reparative action, the dribbling of

saliva diminishes, and if there is mere ulceration it very speedily heals, if there is an eschar, it soon separates, and the sore granulates kindly. In no other disease did I ever see the beneficial effects of any medicine so manifested, as that of the chlorate of potash in these diseases. It is sometimes advisable, indeed necessary, that the aperient should be occasionally repeated.

Medico-Chirurgical Transactions, vol. 26, p. 142.

81.—TER-CHLORIDE OF CARBON IN CANCER AND OTHER DISEASES.—By E. W. Tuson, Esq., F. R. S., Surgeon to the Middlesex Hospital.

The ter-chloride of carbon was first introduced into the Middlesex Hospital, and employed as a medicinal remedy by me some time since. It was ordered as a local application for a patient suffering under cancer of the left breast; one drachm of the ter-chlorite of carbon was mixed with a pint of water, linen rags were moistened in this lotion, and applied to the tumour. The effect was immediate relief from pain, and the fœtor from the discharge was completely destroyed, the patient being comparatively comfortable. The ter-chloride of carbon was then prescribed as an internal remedy, one drop in water three times a-day. This dose was increased to two and then to three drops; the effect was sedative, producing sleep for twenty-four hours; the patient waking occasionally, it was discontinued, and on questioning her some days afterwards as to what sensation she felt in the tumour, her reply was, that she could only compare it to "an endeavour to root a tree out of the earth." After this the cancer sloughed, and considerable pieces came away: the surface left is irregular and excavated, having a healthy granulated appearance, which is hard, to a certain extent, round the surface. The patient uses the lotion once a-day by injecting it upon the surface; she suffers no pain, and expresses herself as feeling very well.

I next employed this remedy to a large and elevated cancer in the groin of a patient admitted under my care in Stafford's ward. It produced the same sedative effect, relieved the pain, produced sleep, and removed the fœtor from the discharge. The patient sleeps almost constantly; suffers very little; he is taking three drops in water three times a-day, and using a lotion composed of two drachms of the ter-chloride of carbon to a pint of water; within the last month the tumour has sloughed in parts. I noticed that after the application had been used for some time there arose an areolar inflammatory action around the tumour, of an erysipelatous character; this extended in the first case to about two inches, in the other case to four or five inches; the skin around was red, of a deeper colour towards the disease; when the finger was pressed upon this part it pitted, and a white mark was left for a second. As the redness round the disease increased, large veins became visible, passing in a radiated and tortuous direction from the disease to the surrounding healthy parts; the slough next took place, when all this appearance gradually diminished, and the surrounding parts became again in a healthy state, the skin assuming its natural colour. The same application was employed during these changes.

One curious and interesting fact may be noticed, which I think can be proved—that this chemical preparation has some peculiar effect in cancerous patients, and in some suffering from other diseases, acting as a powerful sedative, but when it has been employed in some other cases it had no such sedative effect. It is not my intention here to enter into a lengthened detail on this subject, as I intend to do so on some future occasion; but I wish to point out in what cases this remedy may be employed advantageously, and where its use has proved beneficial. In gangrena senilis its local application will be of the greatest service; its antiseptic property is here remarkable, for where it was used by a patient, the fœtor being so great that we could hardly approach the bed, we can now examine the foot without inconvenience. Opium failed here to give relief, either in removing the pain or procuring sleep. This remedy employed locally, had immediate effects in producing both. In sloughing ulcers, also, its local application will prevent the slough extending, and greatly assist in its removal, rendering the parts beneath of a healthy character, and in cases accompanied with much pain, will give immediate relief. In uterine affections, carcinoma,

scirrhus, ulcerated surfaces, with profuse discharge, its use as an injection has produced the greatest benefit: where all other medicines have failed this has frequently proved a valuable remedy. In neuralgic affections its local and internal exhibition will be of the utmost service. In some cases of severe sickness, dependent upon nervous irritability, after the usual remedies have failed, this has been successful to a pre-eminent degree. It allays nervous irritability, removes anxiety of mind, invigorates and raises the spirits, and where patients have one day been in a state of complete misery, they have on the following one become happy and joyful from its effects.

The ter-chloride of carbon (prepared by Mr. Garden, Oxford-street) is a clear transparent fluid, smelling strongly of chlorine, as its name implies; it consists of three parts of chlorine and one of carbon; the dose from one to four drops in water two or three times a-day; one or two drachms to a pint of water, as an injection or lotion.

Lancet, July 15, 1843, *p.* 553.

[Mr. A. Ure states that the three ter-chlorides of carbon described by Berzelius in the Brussels edition of his work (vol. 1, p. 131), are all *insoluble* in water, and, therefore, cannot be the preparations alluded to by Mr. Tuson. He sent for a small quantity of the liquid called by Mr. Tuson the ter-chloride, and thinks it is *chloric ether*. He does not, however, find the same beneficial results from its use as are described by Mr. Tuson.]

Pharm. Journal, October 1, 1843, *p.* 170.

62.—ERECTILE TUMOUR IN THE POPLITEAL SPACE.—By Robert Liston, Esq., F.R.S., Surgeon to University College Hospital.

[Mr. Liston removed a tumour of this description, which had existed upwards of eight years, and which was at the time of the operation about 3½ inches in length.]

Mr. Liston entertained the opinion that it was a solid tumour, possibly of a fatty nature, and decided upon its removal. In this opinion Messrs. Quain and Morton coincided.

Operation, Jan. 6th.—The patient was placed on the operating table on his face. Mr. Liston then proceeded to make an exploratory puncture into the tumour. This was done by introducing a narrow bladed bistoury at the most prominent part of the swelling, nearly in the centre of the limb, and towards the upper part of the popliteal space, deeply into the mass, turning it half round on its axis, and then withdrawing it a little. This was followed by a stream of dark coloured blood projected with some degree of force, which, however, gradually became less. The blood still continued to flow copiously, but uninterruptedly, and without any jerking. On attempting to move the point of the knife laterally, it was found not to be loose, showing that it had not entered any cavity. The tumour diminished somewhat in size during the escape of the blood, which might have amounted in quantity to three ounces.

It was suggested by Mr. Quain that possibly the bleeding resulted from the external saphenous vein being wounded, as in a not uncommon variety it enters the deep vein much higher than usual, in which case its situation would not be far distant from the point of puncture. The bleeding from the opening was stopped by the finger, and a second puncture made on the outer side of the tumour. This was not followed by any bleeding. Mr. Liston determined on removing the morbid growth. A free incision was made through the skin to the extent of about four inches. It was not adherent to the deeper parts. The fascia was now divided to an equal extent, and the surface of the tumour exposed. It had much the aspect of a fatty tumour, but its size was evidently much less than before the commencement of the operation. The opinion that the vein had been opened was now seen to be incorrect. The dissection was commenced on the outer side. The popliteal nerve was soon exposed, and the tumour, which was slightly adherent to it, carefully removed from it. After a troublesome dissection deep into the popliteal space, the tumour was found to be covered by muscle. The dissection was next proceeded with on the inner side, when it was soon found to be in like manner covered by muscular tissue,

which was seen to be the semi-membranosus muscle embracing the tumour. During the manipulations necessary in this dissection, the tumour has become much smaller than when first exposed on the division of the fascia. The substance of the semi-membranosus muscle was now cut into, and the morbid growth removed. The popliteal artery was not exposed in the course of the dissection. Only one vessel required ligature, and the patient was carried to bed, the wound being covered with lint dipped in cold water. A good deal of blood was necessarily lost during the operation, and the boy was somewhat faint. About three hours after the operation, some hæmorrhage occurred from the upper extremity of the wound, proceeding from a vessel very deeply situated. As the patient was still in a state of faintness, no attempt was made to secure the vessel, but the wound was plugged with dossils of lint. This effectually stopped the bleeding, and it did not recur. The limb was placed in a semiflexed position, supported by pillows. The lad gradually recovered from the state of faintness without the use of any stimulants. On the day following the operation he was doing well, and without bad symptoms of any kind.

Jan. 11th.—The lint having now become quite loose, it was removed, and the wound dressed with zinc lotion.

Jan. 12th.—Edges of wound slightly approximated by means of a roller lightly applied.

Jan. 14th.—Wound granulating well, and diminishing in size. The boy was directed to straighten the limb as much as possible, to prevent permanent contraction.

Feb. 1st.—The wound has been steadily filling up, and nothing now remains but a superficial sore. This looks healthy, and is cicatrizing under the use of the lotion. The lad walks about the ward, and has the complete use of the limb.

Examination of the Tumour.—On making a section, the tumour was found to consist of a mass of most perfect erectile tissue as large as a hen's egg. This was completely surrounded by condensed cellular and fatty matter. One part of the erectile tissue was more condensed than the rest, possibly where the seton had traversed it.

Microscopic Examination of the Tumour.—Under a low power it appeared to consist of an interlacement of columns having a fibrous aspect, covered by a smooth membrane, and representing in miniature the appearance of the musculi pectinati of the auricles of the heart. Thin valvular projections of the smooth investing membrane partially closed some of the openings between the columns. Small vessels, filled with blood, were seen running in the substance of the columns. The intimate structure of these columns, examined under a higher power, was seen to consist of bundles of waved parallel filaments. The surface of the columns was covered by a delicate squamous epithelium resembling that found on the inner surface of veins. No fibres resembling those of elastic tissue could be detected.

The foregoing case is brought forward, as exhibiting (in the author's opinion) some points of interest. The difficulty of forming a correct diagnosis, it may perhaps be admitted was considerable. The tumour occupied an important locality. It had at one time pulsated distinctly, but on the other hand it had been punctured, and a seton had been passed through the morbid mass without any considerable flow of blood having taken place. It communicated in some degree the feeling of an encysted swelling. The duration of the disease forbade the idea of its being a chronic abscess; but it might possibly have been a cyst containing glairy or other fluid. The cyst might have been supposed to be either single of multilocular. It was, however, thought to be a solid or sarcomatous tumour of some kind, and its removal was determined upon. The exploratory punctures made in the operating theatre did not throw much light on the case, excepting in so far that confirmation was given to the notion of the swelling being solid. The second puncture must have somehow passed the mass of erectile tissue, and entered only the surrounding fatty matter. The considerable decrease in the size of the swelling after the incisions was not a little puzzling. Besides this, the appearance of the tumour, covered on all sides by

muscular fibres, added much to the uncertainty and difficulty of diagnosis in the case. The bleeding during the operation itself was inconsiderable, and but one vessel required ligature after its completion. There was, indeed, some considerable hæmorrhage a few hours afterwards, but this was easily arrested by pressure, in consequence, unquestionably, of the disease having been removed, or cut *out* and not cut *into*. The difficulties and dangers of the case would probably have been much increased, and the result might possibly have been very different, had the erectile tissue been encroached upon during the operation.—The case, it is presumed, is a rare and uncommon one. Erectile tissue is not often met with in parts deeply placed, notwithstanding what has been said and written by some observers about its occurrence in bones, &c., &c. The author is not aware of its having been found in muscular substance. In the preceding case, however, it is more than probable that a small mass of erectile tissue had originally existed in the muscle, and had gradually become developed, till at two years of age it attained such a size as to attract attention.

Structural disease of any kind in muscle is indeed but rarely encountered; and it may, therefore, be permitted in this place to make reference to a case which occurred in the hospital practice of the author many years ago, in which the sterno-mastoid muscle was the seat of a tumour of a nature which some respectable pathologists would perhaps class with abnormal erectile tissue. It was certainly very vascular, but contained besides much cancerous looking matter, and was altogether what Mr. Pott might have denominated "a strange distempered mass." *Med. Chir. Trans., Vol. 26, p. 122.*

—PROFESSOR ROSAS' OPERATIONS ON THE EYE.

Rosas is a dexterous and steady operator. In his extraction the patient is seated on a low stool, with the head placed obliquely to the light, and resting against the breast of an assistant who raises the upper lid, while the operator depresses the lower with the middle and fore fingers in the usual manner. He makes the downward section with a knife somewhat different from that of Beer, as originally used by him, and figured in his work in 1830. This knife is much shorter in the blade than Beer's; its posterior edge (or back) is also sharp and slightly convex. Holding it between the thumb and the index and middle fingers, the ring-finger bent into the hollow of the hand, and the little one resting on the cheek-bone, he introduces the point at a right angle with the cornea (to prevent its catching in its layers), a little above the transverse axis of the eye, and having entered the anterior chamber, he alters the position of the instrument by depressing its handle towards the temporal fossa, and thus brings the surface of the blade on the same plane with that of the iris. Having passed it rapidly through the chamber and made the counter-puncturation, so that a full quarter of an inch of the point has passed through the inner margin of the cornea, he then *draws* it slowly downwards and slightly upwards, and so completes the section. If the case is one of double cataract, he makes the corneal section, and concludes the operation in the second eye before he extracts the lens of the first. He opens the capsule with a Langenbeck's needle, sharpened on its concave edge, and extracts the lens by gently pressing on the upper portion of the cornea with the flat of the needle.

The object aimed at in having the back of the knife curved is, to give it shortness as well as breadth, and thus avoid pricking the side of the nose; and its posterior sharp edge is to permit of its cutting upwards as well as downwards, and thus not only pass through the cornea with greater facility, but also enable the operator to extend the incision upwards if the original puncturation is too low. Another reason assigned by the inventor of this knife is, that its blade, by being sharp at both sides, and forming in its section a compressed ellipse, permits less escape of the aqueous fluid in passing through the chamber, than the ordinary instrument.

In this manner Rosas operates with the most marked success; but in other hands, especially beginners, his method and instruments are open to many objections. The insertion of the knife at right angles with the cornea is very liable to transfix the iris, and by twisting the cornea itself, renders its further in-

section less smooth and easy; and its cutting back endangers both sclerotic and iris, especially in turning its lower edge outward when completing the incision; and when the iris happens to roll over the back of the knife, it cannot be pressed off with the same facility as when the posterior part is blunt; should the point of the knife get entangled with the iris, he withdraws it and re-introduces it in another place: if the corneal opening is too small, he enlarges it with a Daviel's scissors.

The operation of depression and reclination are much more common in the Viennese school than in England. In this clinique, these, as well as the operation for solution, are performed *per sclerotican*. In artificial pupil, Rosas generally adopts the methods of Beer and Langenbeck, but removes the portion of iris drawn through the wound. *Medical Gazette, June 30, 1843, p. 511.*

84.—CUPPING WITH THE AID OF HOT WATER.—By James Orr, A.M., M.D., Dunoon.

There are few medical instruments, however great the genius which has produced them, that are not susceptible of some improvement either in construction or mode of application. The apparatus for cupping forms no exception to the remark, for they have been the subjects of various improvements, some in the form of the cups, others in the manner of producing the vacuum. One operator requires, to produce a vacuum, spirit of wine and the lighted taper; another employs the exhausting syringe; while a third produces similar effects without either, only applying his mouth to the fundus of the cup to form a sufficient vacuum with a particular form of cup.

The few remarks I am about to make have reference not so much to any change in the form of cup as to its application, and the more speedy abstraction of blood by the aid of hot water. The cup fitted for the hot water is somewhat different from the common form, and though in general use in many places, in others it is unknown. The form is similar to that in common use, which requires the spirit of wine, excepting that from the external and central part of its fundus there is a small tube extending from a quarter to an inch in length. At the distal extremity of the tube the opening is sufficient to admit the point of a small probe, and over this small opening there is a bit of very pliable bladder, or skin covering the opening completely, and well secured with a thread round the neck of the tube. The bit of skin, as we have said, covers completely the external opening of the tube, and acts the part of a perfect valve during the operation. When the cup is applied to any part of the body requiring the abstraction of blood, the tube is laid hold of by the mouth of the operator, and by means of suction (to use a common phrase) a vacuum to almost any degree can be produced; for, when suction is applied to the extremity of the tube, the little bit of skin is elevated to an extent that is sufficient to allow the air within the cup to escape, and when the mouth is removed from the tube, the pressure of the atmosphere forces the bit of skin so close over the opening of the tube as to prevent entirely the ingress of the air, and so forms the part of a perfect valve, in allowing the air within the cup to escape during suction, and preventing its re-entrance, leaving the interior of the cup almost a complete vacuum. In operating with the form of cup so described, its simplicity recommends it very much, as neither the spirit of wine, nor the lighted taper, nor the exhausting syringe, are necessary; and by their absence the operation of cupping is rendered much less formidable in appearance, and so the occasional frights and sudden alarms in patients, which are often produced by the burning of the spirit of wine, are avoided.

Having described the form of cup, I proceed to its application for abstracting blood by the aid of hot water. The incisions being made either with the common scarificators or common lancet, as may suit the convenience of the operator, take a cupping-glass capable of holding from two to three ounces of water, into which put from half an ounce to an ounce of pretty hot water, say at about 120 degrees of heat, and so apply it over the part from which you wish to abstract blood; then apply the mouth to the tube, and by suction the vacuum is produced in the manner above described, which, by the assistance of the hot

water, directly applied to the scarifications, the blood flows freely, speaking comparatively. In cupping parts of the body which are highly vascular the hot water is less necessary, and may be dispensed with; but in operating on parts of less vascularity, it will promote a more copious flow of blood in a given time than would otherwise take place, saving both the sufferings of the patient and the time of the operator. Although the effects of hot water are more manifest in operating on parts that are not very vascular, yet much time may be saved by its use when operating on any part of the body. The reader is not to understand, however, that the addition of the hot water will make the blood flow alike freely from every part of the body, because the flow of blood will be modified by the degree of vascularity in the part.

The temperature of the water used in this manner of operating may be many degrees higher than could be borne in ordinary fomentation, for the insensibility produced by the tightening of the cupping-glass soon overcomes even a slight sensation of scalding, which the patient may feel at the moment the cup containing the hot water is applied. But the use of the hot water in cupping is not limited to that species of it in which blood is abstracted, for its farther advantage can be well conceived in the kind called "dry cupping." In cases requiring that operation, you may have the combined effect of the dry cupping and the hot water, although it is a little paradoxical to speak of *dry cupping* when an ounce of hot water may be used, or less, or more, as may be thought proper.

From the easy mode in which this form of cup can be applied, I recommend it to those who have not tried it. It can be used at all times, and with the utmost delicacy, which cannot be affirmed of that form which requires the spirit of wine. It is no small advantage attending this peculiar form of cup, that in its application the degree of pressure can be increased by a nice gradation, in accommodation to the sensibility of the part to which it is applied, either with or without the hot water, and if thought proper it can be used equally well as the other form with the spirit of wine. Nor is it necessary to remark farther, that this form of cup, with the addition of hot water, is exceedingly convenient, and no less useful for promoting a copious flow of blood after leeches have been removed. As I said above, the degree of pressure can be accommodated to the sensibility of the part, and under ordinary circumstances the cup with the hot water applied to recent leech-holes, almost any quantity of blood may be obtained. *Lancet, May* 20, 1843, *p.* 263.

85.—REDUCTION OF FEMORAL HERNIA ON DR. O'BEIRNE'S PLAN.

[We have repeatedly referred to this plan of reducing a strangulated hernia but as every fresh fact in corroboration of it is satisfactory, we subjoin the following case by Mr. Collambell, of Lambeth. It was that of a woman, æt. 51, ruptured 24 years ago. All the symptoms of strangulation being present, the taxis being used for a considerable time, and various other measures resorted to without avail, Dr. O'Beirne's plan was tried as follows:—]

I introduced, says Mr. Collambell, the elastic tube of the stomach-pump into the rectum, and passed it the distance of twelve inches. I then attached the syringe, and slowly injected two quarts of warm water. When half of that quantity had been thrown up a gurgling was distinctly heard in the tumour, and it gradually became less tense. Having injected all the water, I removed the syringe, and allowed it to run off by the tube; I then reapplied the syringe and continued exhausting the air, when, after a few minutes, I had the gratification to find the hernia gradually subsiding, and, by keeping up gentle pressure, the contents were returned into the abdomen. My patient immediately pronounced herself relieved; her countenance became cheerful, and the sickness abated; she was ordered a brisk aperient o magn. sulph. and aq. menth. pip. and a dose of calomel and opium. The bowels acted freely on the following morning, and she is now as well as usual *Lancet, April* 29, 1843, *p.* 155.

66.—ELECTRO-PUNCTURE IN THE TREATMENT OF DEAFNESS, DEPENDING ON A PARALYSIS OF THE ACOUSTIC NERVE.—By M. Joberт.

The paralysis of the acoustic nerve may be produced by exposure to a current of air, to too great a shock of the head, to waves of sound too violent, to affections of the teeth or of the gums. Electro-puncture has been already employed in these cases, but it had fallen into disrepute. The author believes that he uses it in a manner more direct and more rational; here is his proceeding:—Stard's sound, he says, is introduced through the nasal fossa into the eustachian tube, and in this sound a long thin acupuncture needle is inserted, so as to fix itself in a point of the parietes of the eustachian tube, while the other end projects from the end of the sound; another acupuncture needle is implanted in the membrane of the tympanum. This being done, one of the conducting wires of a galvanic battery, of which the trough is filled with water and muriatic acid, is passed through the eye of one of the needles, and the end of the other conducting wire is made to touch the opposite needle. I have used, in the beginning, eight pairs of the battery, then I got to ten, to twelve pairs; finally I have been as high as eighteen, and at present I have patients who have undergone several sittings, and on whom I have acted with the entire pile, the touch of which contains forty metallic pairs. At the moment that the two poles are put in contact, there is a very painful shock in the ear and in the head, with convulsive motions; but this shock and this pain cease immediately. In a single patient the impression was felt during eight days, but it never extended beyond a slight pain, which ceased of itself. It must be added, that the patients who were submitted to electricity in this manner, were, during some moments, as if stunned, and preserved some time after the experiment a bewildered look. The sitting was usually confined to a single shock when the patients were irritable; I have given two and even three shocks in people whose sensibility was obtuse, and who have been already submitted to electro-puncture. In general I allow eight days to pass between each trial. The author then relates four cases of well marked deafness, and in which the cure was complete; in the first after a single shock, in the second after two shocks, and in the third after two sittings, each composed of three galvanic shocks.—*L'Examinateur Medicale.*

Medical Gazette, June 2, 1843, p. 356.

67.—THE CAUTERIZATION OF SIMPLE ULCERS OF THE CERVIX UTERI.—By M. Lisfranc, Paris.

The author greatly vaunts this mode of treating ulcers of the neck of the uterus, by the application of escharotics. That which he prefers greatly to all others, is the solution of mercury in an excess of nitric acid. The speculum uteri, he says, is indispensable. The escharotic is never to be applied otherwise than very lightly; nor with a view to destroy the ulcerated or altered surfaces, but to modify their vital state—to produce a *new action* in the parts. A soft brush, or dossil of lint, is the proper tool for making the application, and the speculum is immediately afterwards to be filled with tepid or cold water—the abraded surfaces are to be washed clear of all remains of the caustic, which is only felt as peculiarly painful, when it is suffered to come in contact with the sides of the vagina.

London and Edinburgh Monthly Jour. of Med. Science, July, 1843, p. 649.

68.—CHLORIDE OF ZINC IN PHAGEDENIC ULCER OF THE SEPTUM NASI.—By Dr. Zwerina, of Vienna.

A woman, aged 30, who had suffered from severe pain and enlargement of the right tibia, which was judged to be syphilitic in its nature, was at the same time affected with an ulcerous disease of the nose, which bye-and-bye perforated the septum, and threatened to destroy the whole member. The disease of the leg was arrested under the use of mercurial inunction, that of the nose resisted all the topical applications that were made to it—sublimate, arsenic, red precipitate, sulphuric acid, nitric acid, &c., until the chloride of zinc was called into requisition. One grain and a half of the salt was dissolved in one ounce of

distilled water, and the scabs being removed, the sore was pencilled over several times a-day with the solution. At the end of a fortnight, a healthy granulating surface was found underneath the thick crust which now covered the sore, and this being removed from time to time, and the solution re-applied, at the end of five weeks, the cicatrix was perfect, and the patient well.

Lon. and Edin. Mon. J. of Med. Sci. July, 1843, *p.* 650.

89.—STRABISMUS.

M. Jules Guerin has published a second Memoir on Strabismus, devoted to a rational and experimental inquiry into the distinction between the optical and the mechanical forms of the disorder; a former memoir, published in the same journal the 3d April, 1841, having treated principally of the mechanical or primitively muscular form.

Optical strabismus, the principal subject of the present paper, the author defines as a consecutive of secondarily muscular deviation of the eye, consequent on a disjunction of the axis of vision and the axis of the eye. This disjunction may be produced in three ways; 1st, from an obstacle to the passage of visual axis along the course of the ocular axis; 2ndly, by a change of relation in the refracting media without alteration of their transparency; or, 3rdly, by an insensibility of the retina at the proper point for the reception of luminous rays. The first is characterised by the squint existing only while the patient is looking at an object. In these cases the two visual axes, though no longer concurring with the ocular axes, converge towards one point. A squint, then, existing only during active or intentional vision, cannot depend on permanent muscular contraction. A young person aged 19, who had a moveable clot of blood in the posterior chamber, was observed to squint from the attempt to place a transparent portion of the medium opposite to the object looked at, and thereby to avoid the inconvenience produced by the presence of the clot in different parts of the chamber. As soon as she ceased to look at an object, she ceased to squint. A disturbance in the relation of the refracting media, the author thinks is the only way of accounting for some cases of strabismus which are produced suddenly after a blow, or a jarring fall on the seat or on the feet. The first effect of displacement is double vision; and the squint, at first temporary, lasting only during attentive vision, is gradually made permanent by the repeated endeavor to escape from this fatiguing symptom.

The third form, viz., from partial paralysis of the retina, is more difficult of actual demonstration, though its presence may be inferred by induction rigorous enough for practical purposes. Amaurotic patients, when endeavoring to distinguish a light, are seen to turn the eye in different directions where they know the light does not exist; they present the various surfaces, as it were, feeling for it. Those in whom the paralysis is but partial, contract a habit of subjecting to the influence of the rays that part that is most sensible. The author believes that in no case of secondary optical strabismus will the texture of a muscle be found fibrous, and that in no case of primary mechanical muscular strabismus will such a fibrous state of the muscle be wanting. Where myotomy has been performed in cases of optical secondary strabismus, he believes that one of three things must have happened—either the case has not been watched long enough to ascertain the result, or a positive failure has followed, or the primary cause, whatever it may have been, has really been removed by the operation. The author adds a summary of the distinctive characters of the two kinds too concise to be materially abridged, but too long for our pages.—*Medical Gazette, May* 12, 1843, *p.* 254.

90.—REMOVAL OF BLINDNESS DEPENDING UPON PALSY OF THE IRIS.

Mr. Alexander Ure describes the case of a female patient who had come under his care at the Western Eye Dispensary, in consequence of having been suddenly attacked with blindness in one eye. The pupil was dilated and immoveable, and she was wholly unable to distinguish even light from darkness. Judging the case to be one of idiopathic palsy of the iris, the author proceeded

at once to employ the method of cauterizing the circumference of the cornea by nitrate of silver, first proposed by Serres. The result was prompt restoration to sight. He pointed attention to the importance of discriminating accurately between palsy of the iris and amaurosis, since the treatment which is so efficacious in the one would be no less improper than useless in the other.

Mr. Arnott said he had met with a case similar to the one just detailed, in the person of an engraver of eminence, who, after working very closely, both by natural and artificial light, at a plate on which he was engaged, became affected with blindness in the left eye, the one with which he worked. He could see distant objects indistinctly, but could not perceive near objects at all with this eye. The pupil was dilated to its fullest extent, the iris being drawn close to the ciliary ligament, and was immoveable to light applied either to one eye or the other. On getting the patient to look through a little hole in a card, he could read print with the affected eye, thus proving that the disease was not amaurosis, but that vision was prevented by the quantity of light which entered the eye and overpowered the retina. This patient was depleted both generally and locally, had various blisters applied, and was kept under the influence of mercury for two months, but without any decided benefit; the gentleman had relinquished his profession; it was now a year and a half from the commencement of his complaint, and he was much in the same condition. During the treatment, he, Mr. A., had applied caustic round the edge of the cornea in the manner recommended by M. Serres, without much effect, but he had not applied it in the same energetic manner as the author of the paper, and after what he had heard he thought he should make a further and more decided trial of it.

Lancet, May 20, 1843, *p.* 267.

1.—OIL OF TURPENTINE IN NIGHT BLINDNESS.—By CHARLES KIDD, M.R.C.S., Medical Attendant of the Doonass Dispensary.

[In two cases of this description, in which the patients were seized with a total blindness every evening, the moment the sun set, although in other respects perfectly well, Mr. Kidd tried the whole routine of medicines without effect. The iris alone showed symptoms of disease; the rest of the eye was healthy. The iris was very interrupted and sluggish in its movements, and evidently very insusceptible of its usual stimulus, the pupil contracting very little even on the approach of the strong glare of the sun.

Being aware of the action of turpentine on this part of the eye, Mr. Kidd ordered the following mixture with excellent effect:—

℞. Ol. terebinth; ol. ricini, aa. ℥j.; mist. camphoræ, ℥iv.; liquor. potassæ, ℥i.; træ. opii. gtts. x. Ft. mistura.

Half an ounce to be taken every night and morning. The patients were cured in a few days.]—*Dublin Medical Press, May* 10, 1843, *p.* 292.

[It is often difficult to continue the use of turpentine on account of its disagreeable nature. Bouchardat recommends the following formula:—

Take of gum accacia, ten grammes; mix it with ten grammes of water; add of white honey, fifty grammes; oil of turpentine, fifty grammes; carbonate of magnesia, q. s. Make a soft electuary.

The dose is from 2 to 10 grammes (36 to 180 grains) a-day in unleavened bread. In some cases a little laudanum may be added.]

Medical Gazette, Sept. 22, 1843, *p.* 912.

92.—HOW TO MAKE LEECHES BITE.

The leech which it is intended to apply, is thrown into a saucer containing fresh beer, and is to be left there till it begins to be quite lively. When it has moved about in the vessel for a few moments, it is to be quickly taken out and applied. This method will rarely disappoint the expectation, and even dull leeches, and those which have been used not long before, will do their duty. It will be seen with astonishment how quickly they bite.

Medical Gazette, June 23, 1843, *p.* 480.

93.—TREATMENT OF FISTULA ANI BY IODINE INJECTIONS.—By CHARLES CLAY, M.D., Manchester.

[This gentleman has found the use of the tincture of iodine useful not only in hydrocele, but also in fistula in ano. For serous cavities, as in hydrocele, ascites, hydarthrosis, &c., in all of which it has been used, the strength ought not to be more than one drachm of the tincture to ten drachms of water; but in fistula it may be much stronger, even the pure tincture of the Pharmacopœia. Dr. Clay gives the following case to prove its utility:—]

Mrs. D——t, a lady whom I had been attending for some time in consequence of considerable constitutional derangement, was frequently depressed in her mind. I endeavoured to ascertain if any other circumstance, beyond those already mentioned to me, existed to account for this depression, when she told me she had suffered from fistula ani for seven years, but had not mentioned it to any one before, although it was of so long standing, and which had preyed upon her mind to a serious extent, as it was accompanied with great pain. On submitting to an examination, I found a fistulous opening, highly irritable, and discharging freely, about an inch from the anus; the extent of the canal was about two inches to its communication with the rectum. I determined at once on using the iodine injection, and the following day injected the tincture freely through the canal of the fistula; the operation was followed by severe pain for a few minutes, with a less degree of smarting, itching pain, for two or three hours after. On the second day the injections were repeated, the pain following was equally severe with the first day. On the third day the discharge was evidently less; but she desired a little rest, which was granted: after this, she was dressed every other day for seven times, making nine dressings in the whole, when the canal was found perfectly closed throughout, and its mouth entirely healed; no other treatment accompanied, except a little aperient medicine occasionally. Thus a case of the most annoying character, and of seven years' standing (giving rise to much constitutional derangement), was entirely cured in less than three weeks from the commencement, and up to this time (a space of some months), there is not the slightest appearance of a return of the disease. To give iodine injections a fair chance of success, they should be well thrown up by a good powerful syringe (made of glass, as the iodine affects the metallic ones), and the operator should be convinced that the fluid reaches the whole length of the canal, which, in order to ascertain, he should for the first and for the second dressing, wrap a little tow or lint round the bougie, and pass it up the rectum before using the injection, when, if the fluid is conveyed properly, a portion will stain the lint on the bougie. In the case given above, the tincture could not be detected in the rectum after the second dressing.

Medical Times, July 29, 1843, p. 294.

94.—TREATMENT OF TINEA CAPITIS.—By A. L. WIGAN, M.D.

Unless the quantity of hair on the head is exceedingly small and offers no obstacle to the complete examination of the skin, I insist on the head being shaved very carefully twice. The reason is obvious; with a moderate quantity of hair you may be curing the parts which first attract notice, while others which have been infected are gradually progressing to a visible disease, and the cure is thus indefinitely prolonged. I do not, however object to a little circlet of hair round the face, if there be no sign of disease apparent in it, and if it be carefully washed with hot common vinegar. This is a concession to parental vanity which may be safely made, and without which sometimes it would be impossible to obtain confidence. My remedy is Beaufoy's *concentrated* acetic acid—pyroligneous acid, as it is called—though no longer made from wood. As a preliminary, however, I use the acid diluted with three times its weight of water. I call this the detector acid. On its application a number of spots which looked perfectly healthy become red patches. They are indications that infection had been taken, but had not gone through its stages, which period, I believe (after great experience), to be eight days. This assertion is not lightly hazarded. Having by this reconnaissance ascertained the numbers and position of your enemy, your course is clear

One vigorous assault, and there is an end of the matter. With a piece of fine sponge, either tied to the end of a stick or held in a pair of silver sugar-tongs, I imbue each spot thoroughly with the concentrated acid for the space of three or four minutes, and the business is finished. The only reason why it is necessary to see the patient again is, that, as a crust is generally formed, and an appearance of "worsening" takes place, the friends require to have their confidence renewed from time to time by explanation and encouragement. I have often applied the acid more than once, but it was always (I firmly believe) unnecessary, when the preliminaries above stated had been gone through properly upon the *shaved* and *tested* head. The crust gradually grows up with the hair, which soon sprouts again if the eruption be recent, and as soon as a pair of fine scissors can be inserted underneath, it should be removed; but this should not be done prematurely, lest a sore place be produced. When first proposed, a good deal of correspondence took place respecting the plan with those who had tried it without success. I found, however, that in *every case* they had either used a much weaker acid (it is sold of all strengths), or that they had continued the use of it long after the disease was cured, and thus produced that not very rare result, "*disease of the doctor*." In the latter cases it was only necessary to discontinue the acid, and wash the head with warm water.

Medical Gazette, Sept. 15, 1843, *p.* 865.

95.—TREATMENT OF HEMICRANIA AND TIC DOULOUREUX BY CAUTERIZING THE PALATE.—By M. Ducros.

In the most intense hemicrania, and in the most obstinate *tic douloureux*, whether fronto-facial or temporo-facial, the pain disappears instantaneously on the application of ammonia at 25 degrees, to the palatine arch, by means of a (camel's hair) brush; the brush being allowed to remain on the part till a copious flow of tears has been excited. I have tried this for the last three months in a great number of cases, and the pain has always ceased. If the pain returns, a fresh application again produces a cessation of the neuralgia.—*Gazette Medicale.*

Medical Gazette, Sept. 15, 1843, *p.* 878.

96.—TREATMENT OF TINEA FAVOSA.

The mode of treatment of this obstinate disease, employed by the freres Mahon, although kept secret by them, has for a long time been followed with unquestionable benefit in the Parisian hospitals. The records of the bureau central, for example, prove that by this method were cured, amongst others, three patients who had been unsuccessfully treated by the *calotte*; eighteen children dismissed as incurable from St. Louis; nine children, also, dismissed as incurable from the *enfans malade*, &c. Numerous other proofs might be adduced in favour of this method, a description of which we here subjoin.

The hair is first cut short, and the crusts then removed by emollient poultices. The head is now frequently washed with soap and water, and the inunctions and lotions continued until the scalp is completely cleaned. When this has been effected, the second stage of the treatment commences, the object of which is to remove the hair *slowly* and *without* pain, from all the points of the scalp, occupied by the favus. Every second day the ointment (No. 1) is applied, and its use continued according to the obstinacy of the case. On the intervening days the hair is combed with a fine comb, to remove the loose hairs. This mode of treatment having been continued for about a fortnight, a depilatory powder (No. 2) is sprinkled through the hair once a week; on the following day the hair is combed, and the depilatory ointment applied as before. At the end of a month or six weeks a more active ointment is applied every day; and as the disease gives way the frictions are made only once a week, until the redness of the skin has entirely disappeared. Although the formulæ of the remedies employed by the *freres Mahon* have been kept secret, yet their composition has been very nearly ascertained by experiment, and are supposed to be as follows:—

No. 1.—Slaked lime, eight scruples; soda of commerce, twelve scruples; lard, sixty-four scruples.

No. 2.—Wood-ashes, sixty-four parts; pulverised charcoal, thirty-two parts. Lotion.—Lime-water, five hundred parts; sulphate of soda, one hundred and eighty-five parts; alcohol, twenty-four parts; white soap, ten parts.—*From M. Duparc, on Cutaneous Diseases of Children.*

Prov. Med. Journal, May 27, 1843, p. 181.

97.—BLACK CATARACT.

M. Magne relates the following case of this rare and curious disease. A female, above sixty years of age, had laboured under some affection of the eyes, for which she had consulted a number of oculits. She was quite blind; the eyeballs were prominent; the sclerotica appeared to be thin; the iris well-shaped, but perfectly immoveable; bottom of the pupil dark, as in the healthy state.

From these and other symptoms, the disease was supposed to be amaurosis; but a second examination of the patient was made in a darkened chamber, and with the aid of a candle, as recommended by M. Sanson. The deep-seated images were absent, and the author accordingly declared the case to be one of black cataract, with adhesion of the iris. The diagnosis having been confirmed by M. Cruveilhier, the lens on the right side was depressed on the 25th March, 1843. The adhesions of the iris were numerous; but as soon as the capsule was lacerated, the dark colour of the lens became evident, and on depressing it, several black fragments were detached. On the second day after the operation the pupil appeared to be less contracted, the base being quite dark, but on the following day it was closed with a white substance. M. Cruveilhier regarded this as the lens, which had come forwards, after having lost its dark colour in the vitreous humour. The operation was unsuccessful, and was, therefore, repeated in a fortnight; but the first touch of the needle showed that the body supposed to be the lens, was, in reality, the capsule, which was extremely soft and elastic. A few shreds were removed with much difficulty, and the patient recovered but a very imperfect power of vision. *Prov. Med. Jour. June 10, 1843, p. 218.*

98.—DIAGNOSTIC SIGN OF DISLOCATION INTO THE ISCHIATIC NOTCH.

Mr. Syme has recently narrated, in the "London and Edinburgh Monthly Journal," a case where the occurrence of the dislocation was determined by the presence of a particular sign, which appears to be of much importance in the diagnosis of a dislocation which Sir Astley Cooper has described as "the most difficult both to detect and reduce." There is less deformity and fixture of the limb than in any other of the displacements of the thigh-bone. "This obscurity (says Mr. Syme) is much increased by attempts to effect reduction, since a moderate degree of extension almost entirely removes the shortening and inversion, which are usually considered the most characteristic symptoms. I think it, therefore, of consequence to state, that there is another feature of the injury which, according to my experience, is never absent—always well marked—and not met with in any other injury of the hip-joint, whether dislocation, fracture, or bruise. This is an arched form of the lumbar part of the spine, which cannot be straightened so long as the thigh is straight, or in a line with the patient's trunk. When the limb is raised or bent upwards upon the pelvis, the back rests flat upon the bed; but as soon as the limb is allowed to descend, the back becomes arched as before. By attention to this symptom, I have been enabled to recognise the existence of dislocation into the ischiatic notch, when it had been unnoticed by others; and, on one occasion, when it was supposed that the replacement had been effected through powerful extension by the pulleys.

Prov. Med. Journal, June 24, 1843, p. 269.

99.—TREATMENT OF VASCULAR NÆVUS.

Prof. N. R. Smith, of Baltimore, has devised the following method of treating vascular nævus. He saturates a thread with a saturated solution of caustic potash. This is dried by a fire, and a needle being armed with it, the base of the tumour is transfixed with the needle, and the thread quietly drawn through the part. This is repeated in different parts of the tumour. Dr. S. states that he has now under care a case treated by this plan, and the tumour is rapidly

wasting, without any distressing symptoms having occurred.—*Maryland Med and Surg. Journ.*, 1843.

Amer. Jour. of Med. Science, July, 1843, *p.* 260.

100.—NITRATE OF SILVER IN ERYSIPELAS.—By Mr. J. Higginbottom.

[This gentleman considers that his mode of applying this substance in cases of erysipelas has been misunderstood, both by Mr. Erasmus Wilson and Mr. Nunneley, in their treatises on this disease. Mr. Wilson says: "Mr. Higginbottom recommends its employment in a weak solution; the strength of the solution may vary from five to fifteen grains of the nitrate of silver to the ounce of distilled water." And Mr. Higginbottom says that Mr. Nunneley, in his treatise on the same disease, seems to have fallen into the same mistake when he recommends to be used "eight or twelve grains of the nitrate to one ounce of distilled water, or six grains in the same quantity of rectified spirits. (Mr. Higginbottom is evidently mistaken with respect to Mr. Nunneley's paragraph. Mr. N. correctly states Mr. Higginbottom's practice of applying the solid caustic over the inflamed surface, and then goes on to state in his own opinion, that "a more convenient method, and an equally efficacious one, is to paint the surface over with a solution of the salt," of the strength above mentioned.) The following is the direction given by Mr. Higginbottom, who nowhere in his treatise recommends a solution of this substance:]

The part is first to be washed in soap and water to remove any oily substance from the skin, and then it is to be wiped dry; the inflamed and surrounding skin is then to be moistened, and a long stick of the nitrate of silver is to be passed over the moistened surface, taking care that not only every part of the inflamed skin should be touched, but the surrounding healthy skin to the extent of an inch or more beyond it, in severe cases. The nitrate of silver may then be passed over these surfaces once, twice, thrice, or more times, according to the degree of inflammation; once in slight cases, twice or three times in common cases, and more frequently if quick vesication be required.

The use of a weak solution, as named by Mr. Erasmus Wilson, as an application in erysipelas would, I imagine, very soon bring the remedy into discredit, as it could not possibly succeed in extinguishing the inflammation or preventing its progress. In my own practice, for the last eight or nine years, since the second edition of my essay, I have, for convenience, used a solution of the nitrate of silver, but of a very different strength to the one mentioned by Mr. Wilson, viz., eight scruples of nitrate of silver, with twelve drops of nitric acid, in one ounce of distilled water. This concentrated solution I have used in the same manner as I would the solid stick, according to the various degrees of inflammation, applying it with a dossil of linen tied on the end of a small stick, in preference to a camel-hair pencil.

The success of the nitrate of silver in external inflammation depends upon its strength and its proper application. The method of applying it by some practitioners appears to me to be quite trifling with the remedy. Instead of covering the whole inflamed surface and surrounding healthy skin with the nitrate of silver, so as to cover the whole of the inflammation, they simply apply it around the inflamed surface: a mode of proceeding which has seldom the power of even preventing the spreading of the disease, or the deeper mischief when the inflammation itself is unarrested. Sometimes, even after the most decided application of the nitrate of silver, the inflammation may spread, but it is then generally much feebler in character, and easily checked by the repeated application of the remedy.

In severe cases of inflammation, in which there may be a suspicion of deep-seated suppuration, a poultice of bread and water, or a plaster of neutral ointment, may be applied after the nitrate of silver, to keep the surface soft for a future examination.

Lancet, July 8, 1843, *p.* 515.

101.—DESCRIPTION OF A NEW KNIFE FOR DIVIDING THE STRICTURE IN CASES OF STRANGULATED HERNIA.—By T. Campbell Stewart, M.D.

The instrument is composed of a small convex knife and a hollow canula or tube. The knife is concealed in the canula, which presents, at half an inch from its extremity, a notch of about two lines in length, and one line deep, for receiving the membranes which constitute the stricture; this opening is closed at top by a steel blade, presenting at one end a small shoulder, and at the other a wire spring concealed in the handle. The knife, small and convex, is strengthened by a shoulder on each side projecting a little higher than itself, and protecting its edge from contact with the canula, into which it is introduced through an opening in the back of the handle. The object of having the knife moveable, and convex, is to admit of its cutting *both ways*, and also of its being withdrawn for the purpose of cleaning and sharpening.

American Journal of Medical Science, April, 1843, *p.* 497.

102.—PROLAPSUS ANI.—By H. M'Cormac, M.D.

[Dr. M'Cormac relates a very simple process by which this affection, so troublesome when it exists in children, may frequently be remedied. He took the idea from the well known operation of Dupuytren which consists of the following steps, "the patient being laid on his abdomen, the pelvis raised by pillows, the thighs separated, so as to bring the anus in view, the projecting folds separated by as many sulci, which lead to the anus, are severally laid hold of by a dissecting forceps with large blades, then removed with a pair of curved scissors held in the right hand. If the relaxation prove very considerable, the excision may be prolonged half an inch within the anus; but otherwise a few lines will suffice. This operation, which obviously is attended with little comparative pain or hæmorrhage, evidently remedies the excessive dilatability of the anus, and substitutes an accidental closely-adherent tissue for one that is extremely loose. Patients generally do not go to the water-closet for the first few days; and the operation, it is stated, was successful in every case except one, in which, from the struggles of the child, it could not be properly performed."]

Reflecting on the procedure in question, says Dr. M'Cormac, it occurred to me that the same result might in a measure, at least while the child was at stool, be secured by careful manual traction. I immediately stated my views to the intelligent mother; she entered into them at once, and promised, if possible, to carry them into effect. Accordingly, when the child went to the stool, the skin anterior to the anus was drawn to one side by means of the fingers extended around. The little girl submitted to this with some reluctance, and complained that she could not evacuate her bowels. She was encouraged, however; a stool was obtained; from that day and date, now a month since, the bowel has not once descended. The stools, which previously were from two to four every day, have become much fewer, as well as of a more formed consistence and natural colour; while the child's health, spirits, and strength, are in other respects much ameliorated. There is now no prospect of the disease ever returning; the little girl requires comparatively little attendance, her mother, in fact, is only required to stand by, and in a short time, it is to be hoped, her onerous and anxious ministry will wholly cease.

As prolapsus ani is a very common affection, coming frequently under the notice of every practitioner, and hitherto most difficult to remedy, this painless and bloodless mode of treatment, which, it is reasonable to suppose would be equally efficient in other cases, in relieving the sufferings of helpless childhood, and lessening a mother's cares, seems deserving of attention.

Dublin Jour. of Med. Science, July, 1843, *p.* 416.

103.—ERGOT OF RYE IN RETENTION OF URINE.—By Wm. Kingsley, M. D., Roscrea.

[In a case related by this gentleman, there was pain and difficulty in making water for more than three months, when total retention took place, requi

ring the use of the catheter several times a-day. When other remedies had failed, it occurred to Dr. Kingsley to give him the ergot of rye, with a hope that acting so powerfully as it does on the muscular fibres of the uterus, it might have a similar effect on the muscular coat of the bladder. Ten grains of the powdered ergot, infused in two table spoonfuls of boiling water, were administered three times a day. In six hours Captain B. began to pass his water during the day, only requiring the use of the catheter every morning, and, after a few days, but every second day. At the end of ten days the catheter was laid aside, the bladder having the power of evacuating its contents. The desire to pass water is more frequent than natural, and must be obeyed at once, otherwise it will come away without his having power to prevent it.]—*Dublin Medical Press, April 26, 1843, p. 262.*

104.—UN-UNITED FRACTURE TREATED WITH IODINE.

[In a case of fracture of the tibia and fibula, where ligamentous structure only had united the bones for about two years, Mr. Scott made use of the following treatment with success. The heel had been drawn up by the muscles about an inch, which made the great toe point downwards. Permanent extension was first tried, but this failing, the tendo Achillis was divided, and a weight suspended by a bandage passed round the leg, immediately above the seat of fracture.]

Tincture of iodine (iodin. 3j; sp. rect. ℥j.) was locally applied daily for the course of a month, at the end of which time an extensive callus had formed, of considerable firmness. The frequency of its application was now diminished to two or three times during the week, but persisted in for three months longer, when he was taken down from the apparatus and placed in the horizontal posture. The foot had assumed its natural position, the only deformity being a slight bow inwards at the place of union. He remained in the hospital three months longer, and a few days before he left walked a distance of nine miles without inconvenience or difficulty, and with the assistance of a single crutch, the use of which he soon dispensed with.—*Lancet, Sept. 16, 1843, p. 887.*

105.—INVOLUNTARY SEMINAL DISCHARGES.—By R. H. Allnatt, M. D., A. M. F.S.A.

[We published an interesting paper on this subject, by Mr. Phillips, in Retrospect, Part VII., Art. 58, in which the application of the nitrate of silver to the prostatic portion of the urethra as first recommended by Lallemand, is shown to be very efficacious. The subject has been taken up by other writers since the publication of that paper. Mr. James Douglas, of Glasgow, publishes a case in which the cauterization of the urethra, though very beneficial, did not cure the affection, and for which an injection composed of one grain of opium, three grains of acetate of lead, and one ounce of mucilage, used three times a-day, and doubled in strength in ten days, was remarkably efficacious. (See "Med. Gazette," Sept. 29, 1843, p. 929.

Another paper on the same subject is published by Mr. Allnatt, in which he hesitates to believe that these discharges are always seminal. He thinks that they are often more of a mucous character, and unattended with the pleasurable sensation accompanying the emission of semen. An abundant secretion of mucus may be afforded by the prostate, the glands of Cowper, and by the internal coat of the bladder when diseased. Mr. Allnatt has before directed the attention of the profession to the effect of creosote on the mucous membrane in fluor albus, gonorrhœa, and purulent otorrhœa, and thinks that it may be useful in these mucous discharges resembling semen. In the case of otorrhœa he used an injection composed of a drachm of creosote, the same quantity of liquor potassæ, and six ounces of water; to be frequenrly thrown into the tube. Mr. Allnatt accidentally discovered the value of the same remedy to restrain the bleeding from piles.]

Med. Gazette, Oct. 6, 1843, p. 18.

106.—SUCCESS OF ARSENIC IN SYPHILIS.

Dr. Sicherer, of Heilbrunn, cites the following case: A lady having become affected through her husband with the virus of syphilis, had at length passed through the various stages of that disease until about to sink under final marasmus. The palate and the organs of deglutition were destroyed to such an extent that scarcely any liquid could be swallowed, and then only in a recumbent position. As a forlorn hope (for other remedies had been unsuccessfully employed), Sicherer had recourse to arsenic, ordering Fowler's solution to be taken, at first in doses of two drops, but gradually increased to thirty drops, three times a-day. The remedy was continued until about two ounces of the arsenical solution had been taken, by which time a considerable portion of the impaired structures had been restored, and the faculty of deglutition regained; and after a period of ten years no relapse had been experienced.—*Haeser's Repertorium.*

Lancet, July 22, 1843, *p.* 579.

107.—TREATMENT OF SYCOSIS MENTL.—By W. Dauverger.

Of all the modes of treatment recommended for these obstinate affections, the following appears to have been the most useful in the author's hands: The sulphate of iron in different forms is the most efficacious local remedy for the pustular inflammation of gutta rosea, and mentagra. It is used in solution, either by bathing the part affected, or by applying linen dipped in it, or by sprinkling the ulcerated parts of the mentagra with a mixture of charcoal and sulphate of iron. This mixture need not be finely levigated, for it then forms a crust too easily, becomes lumpy, and is not easily removed by washing the beard. In spite of his previous opinions, M. Dauverger also tried a pommade of sulphate of iron, but was obliged to give it up. The following are the formulæ employed by him:

No. 1. Sulphate of iron, twenty-five grammes. Distilled water, two hundred grammes. Dissolve.

No. 2. Sulphate of iron, fifty grammes. Distilled water, two hundred grammes. Dissolve.

No. 3. *Ferro-carbonic powder.* Sulphate of iron, ten grammes. Charcoal, thirty-five grammes. Powder and mix.

The author first treats the inflammatory symptoms with emollients; when he thinks them sufficiently reduced, he orders the patient to bathe the part twice a-day with two glasses of warm water containing one or two spoonsful of the solution No. 1. A quarter of an hour afterwards, he prescribes a local bath of an emollient decoction; and afterwards, if possible, the application of a poultice of the same kind. When no further improvement takes place under this treatment, he has recourse to No. 2, which is twice the strength of the former, and proceeds in the same way. The author employs general means of treatment at the same time.—*Gazette Medicale, Sept.* 9, 1843.

Medical Gazette, Sept. 22, 1843, *p.* 911.

108.—RESEARCHES INTO THE LOCAL CAUSES OF DEAFNESS.—By Joseph Toynbee, Esq., F. R. S., Surgeon to St. George's and St. Jame's Dispensaries.

The researches of which this is a summary view, are in continuation of a previous paper contained in Vol. 24 of the Medico-Chirurgical Transactions. The principal practical conclusion to which they lead is, that the most prevalent cause of deafness is chronic inflammation of the mucous membrane which lines the tympanic cavity; and that by far the greater majority of cases, commonly called nervous deafness, ought more properly to be attributed to this cause. The pathological conditions to which inflammation of the mucous membrane gives rise are divided in the paper into three stages.

In the first stage the membrane retains its natural delicacy of structure, though its blood-vessels are considerably enlarged and contorted; blood is effused into its substance, or more frequently at its attached surface; blood has also been found between the membrane and the membrane of the fenestra rotunda, and in very acute cases lymph is effused over its free surface.

The second stage is characterised by the following pathological conditions: 1st. The membrane is very thick and often flocculent. In this state the tympanic plexus of nerves becomes concealed, the base and crura of the stapes are frequently entirely imbedded in it, while the fenestra rotunda appears only like a superficial depression in the swollen membrane.

2d. Concretions of various kinds are visible on the surface of the thickened membrane. In some cases these have the consistence of cheese, and are analogous to tuberculous matter; in others they are fibrocalcareous, and exceedingly hard. 3d. But by far the most frequent and peculiar characteristic of this second stage of the disease, is the formation of membranous bands between various parts of the tympanic cavity. These bands are at times so numerous as to occupy nearly the entire cavity; sometimes they connect the inner surface of the membrana tympani to the internal wall of the tympanum, to the stapes and to the incus. They have also been detected between the malleus and the promontory, as well as between the incus, the walls of the tympanum, and the sheath of the tensor tympani muscle; as well as between various parts of the circumference of the fenestra rotunda. But the place where these adhesions are most frequently visible is between the crura of the stapes and the adjoining walls of the tympanic cavity; this was the case in twenty-four instances out of a hundred and twenty dissections, being a fifth of the number. These bands of adhesion sometimes contain blood and scrofulous matter.

In the third stage of inflammation of the membrane it becomes ulcerated; the membrana tympani is destroyed, and the tensor tympani muscle is atrophied. The ossicula auditus are diseased, and ultimately discharged from the ear, and the disease not unfrequently communicates itself to the tympanic walls, affecting also the brain and other important organs. *Medical Gazette, July 7, 1843, p. 542.*

109.—BLEPHAROPLASTIE.

Dr. Baumgarten was consulted about a child, six months old, which had a large oval nævus maternus on the lower eyelid of the right eye, extending down to the cheek. Pulsations isochronous with the pulse could be both seen and felt, and as the period of its bursting could not be far distant, to judge from its appearance, Dr. Baumgarten determined to remove it by extirpation, and to replace the loss of substance by blepharoplastie. In effecting the extirpation of the nævus, it was found that the vascular dilatations extended so deeply, that the orbiculus muscle was cut across, and the incisions penetrated into the cavity of the orbit. The hæmorrhage was less than might have been expected. The flap to cover in the large wound that had thus been made was taken from the temple and united to the vicinal parts by four sutures. In spite of the continual application of cold water, some swelling of the face followed, but soon subsided. Union by the first intention took place throughout the part operated on by the third day, and by the fourth the last suture was removed. The wound by the temple suppurated freely, the edges, however, being drawn together, and the bottom filled with healthy granulations. In another week the loss of substance on the temple was replaced, and the cicatrices of the eyelid were scarcely visible.

A somewhat similar operation was performed by Ammon on an old man labouring under cancer of the lower eyelid, with success as far as regarded the process itself; but the cancerous disease unfortunately returned, and the patient refused to submit to any further proceeding.—*Annales de Chirurgie, January*, 1843. *Provincial Medical Journal, April 29, 1843, p. 99.*

110.—ACTUAL AND POTENTIAL CAUTERY AS MEANS OF PREVENTING AND CURING PHLEBITIS, &c.—By M. Bonnett, Lyons.

The cauteries employed by the author are the *potassa cum calce*, the chloride of zinc, and the red-hot iron. The red-hot iron rapidly applied produces a very superficial eschar; the potassa cum calce acts much more deeply; the pain in regard to either is sharp, but speedily at an end, and the inflammation that succeeds is trifling. The chloride of zinc produces much deeper eschars than either the red-hot iron, or the potash and lime; the pain it occasions is severe

and enduring, and the succeeding inflammation is considerable, and attended with the rapid clearing off of the eschars. The author quotes a case of phlebitis following venesection, and four cases of severe constitutional disturbance following wounds received in dissection, which were treated by the hot-iron with immediate and complete success. As many as ten cauterizing irons were used at once in the case of phlebitis, the subcutaneous cellular tissue being found in a semigangrenous state. In the dissection wounds, the seat of the injury alone was deeply seared; the iron was elsewhere carried superficially along the course of the red lines. The author has applied the same method to the treatment of hæmmorhoidal tumours and prolapsus ani. Of these diseases existing together, he gives four cases which were successfully treated, one, in part, by means of the potassa cum calce, the rest by the chloride of zinc. He has also found the caustic an effectual agent in treating varicocele.

London and Edinburgh Monthly Journal of Medical Science, July, 1843, *p.* 650.

111.—CURE OF VENEREAL WARTS.

Francis states that two remedies which he had tried for the extirpation of venereal warts, have always perfectly eradicated them, namely powdered savine and a solution of lunar caustic; the first to be applied to the warts every night taking care previously to wet them, in order that the powder may adhere to them. The quantity ought not to be more than will lie on the top of a good-sized horse-bean. Applied every night for a week or ten days, this remedy will, it is said, cure them effectually. Should this, however, not be considered powerful enough, the savine may be sprinkled every night, and on the following morning a solution of nitrate of silver (four grains to the ounce) may be applied. These two remedies Mr. Francis always employs, and has never found them useless.

Med. Chir. Rev., July, 1843, *p.* 221.

MIDWIFERY.

112.—TREATMENT OF PUERPERAL DIARRHŒA BY DIACETATE OF LEAD.

By W. S. Oke, M.D., Southampton.

[Dr. Oke relates two cases of inflammation of the mucous membrane of the bowel occurring soon after parturition, in which the most obstinate diarrhœa was continued, in one case to a fatal termination, and in another for some time, notwithstanding the usual routine of practice by calomel and opium, catechu, morphia, leeches to the tender abdomen, fomentations, &c. The diarrhœa was frequent and exhausting, the stools were foul and thickened with slimy mucus, countenance anxious, eyes sunk, pulse 140, and the patient sleepless. The diacetate of lead combined with opium was now commenced.]

A grain of the diacetate and a grain of opium were immediately given, and the same dose repeated every two hours whilst the diarrhœa required it; at the same time, the cretaceous mixture was to be given after every liquid stool, as before.

This treatment soon produced the happiest effect. From the moment the diacetate of lead was taken, the diarrhœa gradually subsided; her sleep returned, and in forty-eight hours the pulse fell from 130 to about 96 in the minute. The dose of the diacetate and opium was of course diminished, and the intervals of giving it protracted as the symptoms yielded to its use; in short, under the saturine treatment she completely recovered. When diarrhœa, as the result of ulceration of the mucous coat of the intestines, begins to take place, I know of no symptom more uncontrollable by any mode of treatment that had

attherto been adopted. It is singular that certain preparations of mercury, combined with opium, so beneficial in ordinary cases of diarrhœa, and also in some cases of cholera, should so completely fail in diarrhœa associated with denudation of the villous coat of the intestines. A young man, a butcher by trade, had a long-continued diarrhœa of fæcal matter, mingled with sanies. There was no organic stricture that could be detected. As every possible means had been tried in vain, I resolved to bring the system under the action of mercury, in the hope of causing the ulceration to heal. Accordingly, by means of the blue pill combined with opium, he was kept in a state of ptyalism for a considerable time, but it had not the slightest effect on the disease.

My attention was drawn to the efficacy of the diacetate of lead in diarrhœa by Dr. Graves' excellent work on Clinical Medicine, and it appears that his attention to it had been awakened by Dr. Bardsley, of Manchester. Dr. Graves, after having lost all confidence in calomel for the cure of epidemic cholera, thus writes (page 697): "It was, however, a question of deep anxiety to me what I should select instead, or to what article in the materia medica I should have recourse, when so many had proved so utterly valueless. About this period I happened to be called on to attend a case of obstinate diarrhœa, with my friend Dr. Hunt. The case was an extremely harassing one, and had resisted all the ordinary remedies. I advised the use of the acetate of lead and opium in full doses; this was given, and I had the satisfaction of finding that the diarrhœa soon yielded. Before this period I had received a letter from that able practitioner and excellent man, Dr. Bardsley, of Manchester, directing my attention to the use of acetate of lead in large doses in that form of diarrhœa which precedes and accompanies inflammation of the glands of the small intestines."

The result of the second case above related—and a *very strong case it is*—enables me to bear testimony that the diacetate of lead is also an effectual remedy in acute puerperal villitis, associated with diarrhœa, and a pulse of 130 in a minute—a disease which no other remedy could combat, and which in all human probability, would soon have destroyed the patient.

Prov. Medical Journal, Sept. 23, 1843, *p.* 524.

113.—RUPTURE OF THE UTERUS—RECOVERY.—By M. Vaulpre, M.D.

The patient in this case was in her 19th year, and confined for the first time. Delivery was attempted by the long forceps, but in vain; the head of the infant had to be opened, and delivery was accomplished by means of the hook. In passing the hand into the uterus, a longitudinal rent was discovered, corresponding to the right fossa, and from six to seven centimetres in length. The hand, when passed into the gap in the uterus, came in contact with the mass of the small intestines. A month afterwards the uterus contracted, and the tear in its substance could no longer be perceived. The patient was alarmingly ill. She vomited, had hiccup, violent pain in the abdomen, &c. Nevertheless she did not die; on the contrary, after several days passed in a state between life and death, she began to improve, and finally recovered.

London and Edin. Mon. Jour. of Med. Science, July, 1843, *p.* 651.

114.—CASE OF INTERMITTENT UTERINE HÆMORRHAGE.—By M. Billeter.

A woman 42 years of age, mother of 12 children, had been suffering for a month from uterine hæmorrhage, which came on every day, and for the removal of which every styptic and astringent had failed. When M. Billeter first saw her, she was exhausted and exsanguine, the abdomen was soft and depressed, but she suffered no pain. He was told that the discharge of blood sometimes appeared during the day, but always about two or three in the morning, that it continued some hours, and then ceased, to reappear next day. For an hour before it commenced, the patient suffered from a sensation of heat in the head and limbs. She was ordered to take 10 centigrammes of quinine, and the ergot of rye, during the interval between the attacks. The hæmorrhage did not recur after the first dose of the quinine, but on the fourth day, considering herself cured, she did not take her medicine; the discharge in consequence returned, but ceased upon resuming the quinine. She was soon completely cured.

London and Edin Mon. Jour. of Medical Science, July, 1843, *p.* 651.

115.—PREGNANCY TWO YEARS AFTER CESSATION OF THE MENSES.

"At a recent meeting of the 'Societe Medicale du Temple,' M. Legros narrated the following case:—A married woman, mother of several children, ceased to menstruate at the age of forty-one. Two years afterwards her general health having become disordered, she consulted M. Legros. She was then thin, sallow, and presented other symptoms which seemed to indicate a cancerous cachexia. She herself stated that she thought she was pregnant. M. Legros considering that the menstrual function had been entirely absent for two years, and that its cessation had been accompanied by the symptoms which usually attend its final disappearance, thought he had, in all probability, a cancerous affection of the uterus to deal with, and prescribed an appropriate treatment. He does not appear to have examined the state of the internal organs of generation per vaginum, a most egregious error in such a case, as the neglect of this means of diagnosis rendered it next to impossible to arrive at a correct opinion of the state of the patient. A few months afterwards the woman was delivered of a full-grown child. She then confessed that on thinking herself safe, she had abandoned herself to a young man. M. Legros suggests that the excitement which attended this new *liaison* may have revived the functional vitality of the uterus, and this seems indeed to be the most rational view of the case.—*Gaz. des Hop., Oct.*"—*Lancet, Oct.* 28, 1843, *p.* 116.

116.—NEW PESSARIES.

Mr. Snow laid before the Westminster Society some pessaries which he had invented, consisting of sponge cut into a globular form and tied up in oiled silk in such a manner that, when compressed, the air contained in the interstices of the sponge was displaced from the instrument, which was thus reduced in size, but gradually returned to its original dimensions when the pressure was discontinued. He said that, by this capability of being reduced in size, the pessaries were very easy of introduction; he had found them more effectual and create less uneasiness than any other kind which he had used; and as the oiled silk protected the sponge from all extraneous matters, they were calculated to be durable. He had got Mr. Read, Regent-circus, to make them for him.

Lancet, May 5, 1843, *p.* 191.

117.—CÆSAREAN SECTION.

A woman, aged thirty-one, who had borne five children naturally, was attacked with violent arthritis, during her sixth pregnancy. The pelvis became so deformed that the finger could scarcely be introduced between the tuberosities of the ischum and the ascending rami, on either side; the pubes also formed a very prominent angle, the sacrum projected much forwards, and the os uteri could not be reached. On the 27th of July, 1840, labour having commenced, and the contraction of the pelvic diameter being well ascertained, the Cæsarean section was determined on, and was performed in the linea alba by Dr. Arnoldi. The results were most fortunate; the mother nursed the child herself, and the wound healed by the beginning of September.—*Prov. Med. Jour., Oct.* 21, 1843, *p.* 60.

118.—NEURALGIA OF THE URETHRA.

A woman, thirty-two years of age, mother of four children, suffered for eight months from pain at the lower part of the abdomen, with scalding on making water, and a constant sense of titilation at the orifice of the meatus. The pain became so severe as to prevent the patient from sleeping. The bladder was examined, but no sign of calculus found. Various remedies were tried without effect. Two issues, with the Vienna caustic, were now made over the hypogastric region. The patient had tepid baths, containing two drachms of the sulphate of potass, and some pills composed of hyosciamus and extract of lettuce. This mode of treatment effected a cure.—*Prov. Med. Jour. June* 3, 1843, *p.* 201

RETROSPECT.

In the discussion respecting the active principle of malaria, we have endeavoured to give as impartial a view of the case as possible; and have presented to our readers either the recently-published opinions on all sides of the question, or have referred to the works where they may be found. One of the most interesting papers on the subject is that published by Dr. Gardner, Professor of Chemistry in Hampden Sidney College, America. He shows from carefully instituted experiments, that sulphuretted hydrogen gas exists in the stagnant waters and atmosphere of certain marshes where malarious diseases are prevalent, and that certain agents give activity to the exhalations arising from these marshes. On account of the difficulty of procuring a sufficient quantity of atmospheric air to detect the presence of the gas, he prepared pure surfaces of silver and brought them into contact with the air and water in the suspected regions. Silver is one of the most delicate tests for sulphur, and is not so liable to be attacked by the agents which act upon lead, copper, &c. The mode of preparing the silver for this experiment is detailed in the first article of this volume, and so delicate a test of sulphur is metallic silver, that it will detect it in a solution containing one part in three millions of water; and as a means of determining the amount of sulphuretted hydrogen in mineral waters, it is perhaps one of the best tests which we possess.

Dr. Gardner having prepared his silver plates (polished coins), exposed them to the action of the air and water of marshes in different localities. The polished coins were first perforated in a marked place so as to be recognised, next cleaned and dried, then carefully weighed, furnished with strings, and lastly, suspended in the places fixed upon. Thirty different coins were thus suspended in different places; some were soon stained, and others, as in the Buffalo river, were not affected for some time. Ultimately, however, most of them were more or less stained: and it was found that the shallow waters of marshes contained the most, and rivers the least amount of gas, the coins suspended in the latter sometimes requiring a month, and those suspended in the air even more time for discolouration, while those suspended over the stagnant marshes, would be affected in a week or even less. Dr. Gardner brings forward some very strong facts and arguments to prove the correctness of his own, and Professor Daniell's opinion on this subject; and although some very striking circumstances are alluded to on the opposite side by Dr. Morris Pritchett, Dr. M'William, and others, we are inclined to think that the two last-named gentlemen have hitherto failed to overturn the arguments of their opponents. (1.*)

We have to thank Mr. Erichsen for some valuable remarks on the use of arsenic in cutaneous affections. The indiscriminate use of this article in certain diseases of the skin, has no doubt frequently brought discredit upon it.

One great principle to be held in view in its use is never to administer it in the early, acute, and inflammatory stages of the affection. The solution of the arsenite of potassa (Fowler's solution), and the solution of the iodide of arsenic and mercury (Donovan's solution), are the two preparations which are most frequently prescribed in this country; and the former is by far the most popular of the two. Different authors vary a little as to the dose of Fowler's solution which ought to be given; but most of them agree that we ought not to exceed 15, or at most 18 drops in the course of the day. Mr. Erichsen, however, begins with two minims of the solution twice a-day, and increases the

* The figures at the end of this and the other paragraphs in this Retrospective Summary, refer to the numbers of the articles in the present number, where the subjects are treated of at length.

dose to 5, 6, or 7½ minims three times a-day, beyond which, he says, it ought not to be carried, as its good effects will be more evident from small doses continued for some time, than from larger doses which have to be sooner relinquished. Some patients, however, are so excitable, that the smallest doses are inadmissible. Another good preparation is the iodide of arsenic introduced by Dr. A. T. Thompson. The dose is the twelfth of a grain twice a-day, to be increased to the sixth or the fourth of a grain three times a-day, although these doses are seldom necessary. It is well to combine the extract of conium with iodide of arsenic, in order to sheath its irritating qualities, and prevent it from exciting too powerfully the mucous membrane of the stomach. By the addition of the biniodide of mercury, a compound pill may be formed, which resembles in its effects the liquor of the hydriodate of arsenic and mercury, and which has been found by Dr. A. T. Thompson very efficacious in lupus, and by Mr. Erichsen in some syphilitic eruptions, more particularly when of a squamous kind. A pill may be made containing one-twelfth of a grain of the iodide of arsenic, one-sixth of a grain of the biniodide of mercury, and two grains of the extract of conium; to be given twice a-day. The iodide of arsenic may be gradually increased to one-sixth of a grain, and the biniodide of mercury omitted at the end of a fortnight, or sooner, as it might affect the gums. The diluted biniodide of mercury ointment may in some cases, as in syphilitic psoriasis, be also applied externally at the same time. Arsenic seems to be an excitant or stimulating tonic, acting chiefly on the digestive, nervous, and integumentary systems; and when the dose has been pushed so as to irritate any one of these parts, the medicine ought to be immediately suspended, or greatly reduced in strength. The time for prescribing arsenic in a cutaneous affection requires, perhaps, as nice a discrimination as can be exercised. Mr. Erichsen points out a mode of practice which will be generally serviceable in these cases. As it is in the chronic stages that the remedy is to be used, he first ascertains whether the affection will bear the topical application of mild stimulants, such as the ointment of the white precipitate, or the nitrate of mercury diluted with equal parts of the spermaceti ointment, or a solution of the sulphuret of potassium in the proportion of about a drachm to the pint; and if any of these applications can be borne without increasing permanently the severity of the disease, the internal administration of arsenic may likewise be beneficial. In illustration of this opinion he adduces as an example that very common disease, eczema, which, when in its acute stage, in which it will bear no other topical application than the most soothing poultices and fomentations, will infallibly be greatly increased in severity by the employment of arsenic, even in its most minute doses; but at a more advanced period, when it can bear topical stimulants, the same disease will be greatly benefitted by the internal administration of this medicine. The diseases of the skin for which arsenic is recommended, may be of very different kinds, but they all agree in this, that they are characterized by the presence of scales or scurf; and even when they do not belong to the order *squamæ* they are usually but little benefitted until they arrive at that stage in which they assume a furfuraceous or scaly condition. (2.)

We wish particularly to draw the attention of our readers to the excellent summary of opinions held by some of our best practitioners respecting the treatment of fever and several other diseases, written by Dr. Cowan, of Reading. His papers are already so much condensed, and contain so many excellent formulæ, that we can only in this way direct the reader's attention to them more particularly. They are found in our third article. (3.)

Dr. Holland draws our attention to an ingenious contrivance to prevent the inhalation of that large quantity of gritty and metallic particles which cause so much pulmonary disease among the grinders in Sheffield. Many years ago a magnetic apparatus was contrived which attracted the metallic particles before entering the nose and mouth; but this was of no avail in attracting the non-metallic substances, and moreover the grinders would not be at the trouble to make use of it. Since that time another plan has been suggested and brought into practice, which seems likely to save the lives of thousands of these tradesmen

not only in Sheffield, but also in all large towns where grinding or filing is carried on, especially among those mechanics who prepare the different kinds of machinery for cotton, flax and woollen manufactories. "A wooden funnel, from ten to twelve inches square, is placed a little above the surface of the revolving stone, on the side the farthest from the grinder, and this funnel terminates in a channel immediately under the surface of the floor; *or we may consider the channel simply as the continuation of the funnel*, in order to avoid any confusion in the explanation. The channel varies in length, according to the situation of the grinder, in reference to the point where it is most convenient to get quit of the dust. If we suppose that eight or ten grinders work in the same room, each has his own funnel and channel, *and they all terminate in one common channel, the capacity of which is perhaps twice or three times as great as each of the subordinate or branch channels.* The point where they terminate is always close to an external wall. At this point, within the general channel, a fan is placed, somewhat in form like that used in winnowing corn, and to this is attached a strap which passes under and over a pulley, so that whatever puts the pulley in motion, causes the fan also to revolve. The pulley is placed in connexion with the machinery which turns the stone, so that whenever the grinder adjusts his machinery to work, he necessarily sets the pulley and the fan in motion. The fan, acting at this point, whatever may be the length of any of the subordinate channels, causes a strong current to flow from the mouth of each funnel, which carries along with it all the gritty and metallic particles evolved, leaving the room in which the operations are pursued, free from any perceptible dust.—When the whole apparatus is perfect and in excellent condition, the atmosphere of the place is almost as healthy as that of a drawing-room. (4.)

The bebeeru bark of British Guiana has been brought into notice as a substitute for quinine, by Dr. Maclagan and Dr. Rodie, who consider it to possess antiperiodic powers of considerable value. They have given it with success in ague, and the more serious cases of intermittent, as they occur in our colonies. The bark and seeds of the plant yield two alkaline bodies, to which Dr. Maclagan has applied the terms *bebeerine* and *sisseerine*, from the Indian and Dutch names of the tree. Dr. Rodie has found the sulphate of bebeerine equally as successful as quinine itself, and, moreover, it is not attended with any irritation of the stomach, nor that alarming symptom of deafness and determination to the head, which so frequently follow large doses of quinine. The sulphate of bebeerine may be given in doses of ten or twelve grains during each intermission, and it will be found that from a scruple to half a drachm or a drachm will generally be sufficient for a common intermittent. (5.)

We referred to the introduction of matico into this country in a former number. Dr. Jeffreys, of Liverpool, has exerted himself to obtain information as to its medicinal powers from a great many practitioners, and has published a very interesting paper on the subject in the Transactions of the Provincial Medical Association. It evidently possesses considerable powers as an astringent; and will probably be found to be a valuable medicine in leucorrhœa, menorrhagia, epistaxis, catarrhus vesicæ, &c. The decoction or infusion may be made with half an ounce to the pint, and the dose three table spoonfuls. The strength may be increased to an ounce to the pint. The opinion of Dr. Jeffreys is confirmed by the experience of Dr. Lane, of Lancaster, who has also written an interesting paper on the same subject. (7.)

We would draw the attention of our readers to the apparatus of a hot-air and vapour bath, contrived or improved upon by Dr. Martin Lynch. It is a very simple, cheap, and portable contrivance, and one which may be exceedingly useful in practice. The description is minutely given in our eighth article. (8.)

We are disposed to think with Mr. Richard Battley, that much of the virtue of medicines may be impaired by attempting to concentrate them too much, as for example in the preparation of quinine. Whether this arise from the great adulteration in some of our more expensive drugs, or from the process of preparing them in a concentrated form, we cannot determine; but one thing we are convinced of, that an ordinary and simple method of preparing a drug for

use is often preferable to the more expensive and more fashionable modes, in more common use at the present day; and in giving this opinion, we do not even except the sulphate of quinine. We are supported in this view by the experience of Dr. Battley, with respect to this medicine, who says, that "it has ever been an object with him to preserve, unbroken, the natural union by which several active principles are often combined in the same plant;" and from *long* experience, he thinks that no method of extracting the virtues of plants is equal to maceration in cold distilled water, which takes up all or most of their medicinal qualities. For this reason he prepares what is called "liquor cinchonæ cordifoliæ," with cold distilled water; and which we can recommend as a very good preparation of bark, and one in no way inferior, but perhaps superior, to the quinine.

By this process he obtains, from twenty-eight pounds of good yellow bark, from five to six pounds of concentrated liquor, containing about ten ounces of quinine. It is only necessary to subpulverise bark and macerate it from four to six hours in twice its weight of cold distilled water, repeating the process twice or at most thrice, and to concentrate the infusions over a water bath to sp. gr. 1200, and allow the liquor to deposit the gummy matter and so much of the tannin as it cannot retain in solution. (10.)

In an interesting paper by Mr. Barlow, of Oxford, he draws our attention to many of the excellent effects of cold, when applied to the skin, in stimulating the incident nerves, and thereby acting as a very powerful agent in the treatment of some diseases. Most of these effects may be familiar to all of us, but it is wholesome to be reminded of practices and effects, which, sometimes from their notoriety, are apt to be overlooked by the regular practitioner. For example, a dash of cold water will often rouse the system from a state of syncope, and in coma succeeding to convulsion, the effect will be equally striking, even when the respiratory, circulatory, and cerebral functions seem almost extinguished. And there is every reason to suppose that some cases of coma which depend more upon functional than organic injury, are changed from temporary into permanent death, from no adequate stimulus being applied to the incident nerves. In many cases of narcotic poisoning, the sudden application of cold may be repeated time after time with advantage; the great source of danger consisting in the blood not being duly oxygenated through deficient respiration; the brain thus becoming doubly influenced primarily by the narcotic, and secondarily, by venous blood. Mr. Barlow relates a case of this description. A child took a large quantity of opium; fearful coma was the consequence, accompanied by long pauses in the respiration and circulation. Cold water was dashed on the surface repeatedly, followed by friction, with the happiest results —"the nerves of the skin were made to play that part which, under ordinary circumstances, the vagi nerves perform (through the stimulus of carbonic acid), and so life was continued, and a perfect recovery ensued."

In poisoning by prussic acid, and in congenital asphyxia, the cold douche will be found a valuable auxiliary to other measures. It occasionally happens that a sudden alternation from cold to hot applications, and from hot to cold, will be more beneficial than a continuance in the one or the other, exemplifying what Dr. Marshall Hall says, "that it is not the mere application of cold, but the sudden application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation*."

As a means of producing contraction of the womb, it is too familiar to dwell upon; but it has not been sufficiently made use of as a stimulant to the expulsor fibres of the bladder, as is most interestingly illustrated by Dr. Currie, in a case of retention of urine, in which the patient's feet were placed on a cold marble slab, and cold water was dashed over his thighs and legs. The effect was instantaneous; the urine burst from him in a full stream, although the common remedies had been tried in vain. (11.)

It is very probable that many cases which have been related as phthisical, in which naphtha was found so beneficial, were cases of acute or chronic bronchitis, of more or less severity, in which many of the physical signs of phthisis might be present, but where the real disease was absent; and if this opinion be

correct, we can then perceive the advantage which would result from the exhibition of naphthaline which will probably be found to be a valuable expectorant, clearing the air-cells and canals very efficaciously of accumulation of mucus.—When a little napthaline is applied to the tongue, it causes a peculiar heat and pricking sensation, which extends down the throat and bronchial tubes, and, exciting a spasm of the latter, ends in inducing a cough. It may be used in the form of a syrup, composed of fifteen grains of naphthaline, suspended by a small quantity of boiling alcohol in about four ounces of syrup, of which the dose is a tea spoonful every quarter of an hour till expectoration is produced; or an electuary may be made, consisting of eight grains of naphthaline in half an ounce of any simple electuary, and the dose proportioned so as to give half a grain or a grain of the naphthalines every quarter of an hour as before. (In the 12th article, which we extracted from the Lancet, we perceive this electuary is ordered to be made with *eight grains* of naphthaline to *half a drachm* of electuary, and the dose a *table spoonful;* this is evidently an error, which we did not detect till the sheet had gone to press. The reader, however, will perceive that in making the *syrup*, fifteen grains are mixed with four ounces of syrup, and the dose a tea spoonful, so that about half a grain would be the dose in ordinary circumstances.) The dose of *naphtha*, as stated in Mr. Wilson's paper, was ten drops, gradually increased to twenty, three times a-day; and in cases of chronic bronchitis we certainly think this remedy may prove valuable, but we cannot agree with either Dr. Hastings or Mr. Wilson in their opinion of its powers in the cure of phthisis itself. (12.)

In cases of poisoning by colchicum and other acrid or narcotico-acrid poisons, related by Dr. A. T. Thompson, he lays stress on the benefit to be expected from extracting a large quantity of blood from the vicinity of the brain, from the temporal artery, for example. The poison is circulating in the brain, and is exerting its effects more especially on that organ; by taking away blood, therefore, a considerable portion may be abstracted, and the sympathetic irritation may be considerably lessened, and time afforded for providing against the collapse. (13.)

Dr. Graves has very clearly explained the difference in hæmoptysis, when the blood comes from the bronchial or from the pulmonary arteries. The blood going to the lungs along the bronchial arteries being red, while that in the pùlmonary is dark venous, it will be evident by the kind of blood which is expectorated from whence it originates. Dr. Graves has shown that when it arises from the branches of the pulmonary artery, it is in consequence of the direct effusion of blood from those branches which ramify on the air-cells, and that the blood expectorated has nothing to do with the bronchial mucous membrane or bronchial arteries; and that the blood may escape into the inter-vesicular pulmonary tissue, where, having no exit like the portion which is thrown out into the air-cells, it may remain. This constitutes pulmonary apoplexy. He does not allow that when blood expectorated is dark venous, it necessarily comes from the stomach, but correctly shows that it may be equally dark and venous when arising from these pulmonary branches; and that, when the stethoscope is applied, the signs of disease of the lungs will often be evident enough; at the same time even blood from these vessels may be rather red, owing to its partial aeration. From these circumstances, when we find that in pneumonia the expectoration is tinged with dark venous instead of arterial blood, we may conclude that it is of a more dangerous nature than when the bronchial vessels only are implicated. When these last mentioned arteries give rise to the hæmorrhage, it is generally of a less dangerous nature and more scanty; although it occasionally happens that even when from this source it becomes alarming. One very important indication of treatment in cases of hæmoptysis, is to relieve the congestion and arrest the further effusion of blood, by copious depletion; and the extent and promptitude of this measure will depend upon the fact whether the hæmorrhage is arising from the pulmonary or from the bronchial vessels.—If from the former, it will be more dangerous and extensive, owing to the blood plugging up and obliterating the ultimate divisions of the air tubes, perhaps to a great extent of surface; but if from the bronchial vessels only, this effusion

will seldom be very extensive, and not nearly so dangerous as in the former instance, arising in phthisical cases perhaps rather from the congested state of the bronchial membrane than from ulcerative action implicating the vascular tissue. When free depletion has been adopted, according to the case, Dr. Graves relies chiefly on ipecacuanha given in doses of two grains every quarter of an hour, until there is some improvement, and then every half hour or hour until the bleeding stops. This remedy is to be preceded by a purgative enema and a saline cathartic. The ipecacuanha is recommended not only in these cases, but also in hæmorrhage from the bowels, and even in hematemesis, in preference to the acetate of lead, which Dr. Graves employs only in those cases of passive hæmorrhage in which opium is indicated, and then in combination with the last remedy. We have tried this treatment with great success in our own practice, but have been equally successful with the tartarized antimony, except in those cases where the alimentary canal has been the part affected; and we suspect that it will be found that the same good effect will be found to arise from all or most medicines which have a nauseating influence on the system. (16.)

More cases have been published respecting the efficacy of gallic acid in hæmorrhage from the uterus, bowels, and other localities. In one case of menorrhagia, published by Dr. Stevenson, the woman was almost exhausted, and was greatly benefitted by eight grains of gallic acid with a little cinnamon every third hour, which was continued for two days and then relinquished. In a case of hæmaturia in a boy fourteen years old, who had been passing blood with his urine several months, three grains with four grains of aromatic powder were given every three hours for four days, when the discharge subsided, and did not return. M. Tissier, of Lyons, has been administering a new astringent preparation for similar purposes. It is prepared by digesting rhatany in sulphuric ether, by which he obtains a brown extract, soluble in water, and possessing an astringent taste when placed on the tongue. It is said to be particularly serviceable in cases of non-contraction of the uterus after prolonged labours and miscarriages; and in leucorrhœa, menorrhagia, &c., depending on a want of power and contraction in the tissues of the womb and vagina.

Professor Simpson has also published some interesting information on the use of gallic acid in some cases of menorrhagia. He gave it in doses of from 10 to 20 grains per day made into pills. (20.)

In the treatment of chronic hydrocephalus, Dr. Hannay mentions the benefit which accrued from the application of a liniment composed of powdered ipecacuanha root—two drachms to about half an ounce of lard with two drachms of oil. The part is to be rubbed with this liniment for fifteen or twenty minutes, three or four times daily, and enveloped in flannels. This produces in about thirty-six hours very numerous and small papulæ and vesicles. The effect is not so severe as when the tartrate of antimony is used, and yet it is a very efficient counter-irritant, especially in young and irritable subjects; and also where the head affection has been caused by the suppression of eruptions and scabbed diseases of the scalp. (23.)

It will not be necessary for us to recapitulate those improvements and practical suggestions which will be found already condensed in the several short articles on practical medicine, and we will, therefore, hasten to sum up some of those interesting facts and remarks which the reader will find in the surgical part of our volume. We will, however, just remind the reader that he will find very interesting and practical remarks on the several subjects of *Indian hemp*, *treatment of croup with sulphate of copper*, on *valvulus* treated by the forcible injection up the rectum of a large quantity of thin gruel, regurgitation being prevented by pressure round the anus, on the *value of antimony in mania*, which is corroborated by the practice of Dr. Graves, of giving the same medicine in large quantity combined with opium in some cases of nervous fever (see Retrospect. Part vii, art. 2), on *compression* in *chronic hydrocephalus*, on the treatment of *diabetes* by giving large quantities of the sesqui-carbonate of ammonia, and on a variety of other diseases and remedies which are already compressed into as small a compass as the most busy and fatigued of our readers could desire. In recapitulating the treatment of dislocations of the astragalus, as de-

scribed in Mr. Turner's elaborate and excellent treatise on the subject, we would premise that this bone may be displaced in eight directions, viz: 1. forwards; 2. forwards, and inwards; 3. forwards, and outwards; 4. upwards, and outwards; 5. outwards; 6. inwards; 7. backwards; 8. outwards, downwards, and backwards.

As a general rule, in the treatment of these cases, the bone ought to be replaced if possible. It is of great importance to distinguish between complete and partial dislocation of the bone, because in the latter case reduction is very possible, while in the former almost impossible, on account of the powerful approximation of the tibia to the calcis; and even if in the latter case the tibia and os calcis could be sufficiently separated to allow the bone to be replaced, it becomes very questionable whether or not the practice would be good, on account of the insufficient vascular connexions which we may be sure would result from the severe laceration previously experienced. In one instance only has a complete dislocation been partially reduced; and it is evident that in such a case, if compound, the unreduced portion of the bone should be excised, to prevent the foot from becoming permanently fixed by the mechanical obstacle. In the cases published of dislocations forwards, inwards, and outwards, simple as well as compound, Mr. Turner states that, in many instances, the bone sloughed where extraction was not performed, but in all the instances of luxation backwards, with one exception, the bone scarcely seemed to act at all as an extraneous body, *i. e.*, it neither died nor did it excite any great amount of local or general disturbance. In the dislocations backwards, therefore, extirpation of the bone is scarcely called for. In irreducible simple dislocations forwards, inwards, and outwards, Mr. Turner would not extract the bone in the first instance, but in some compound cases he would not hesitate to do so without a moment's delay; at the same time he states that where the complete dislocation is simple, we may hazard the chance of allowing the bone to remain in its new situation, to be afterwards extirpated if necessary or left to slough away. In a case of partial, simple, and irreducible dislocation forwards, outwards, or inwards, the best practice, perhaps, would be not to interfere but leave the case to the resources of nature; but in partial and compound or compound and complicated (reduction failing) excision, if practicable, of the protruded portion of bone should be performed; but not in partial and simple dislocation without any external wound. When the displacement is complete and simple and cannot be reduced by moderate efforts, it ought to be left to nature; and should the skin inflame and ulceration of the skin threaten, an incision may be made over the bone, which may then be extricated by the efforts of nature or art, according to circumstances. (63.)

Since our last notice of the operation of lithectasy, it has been performed by Dr. Wright, of Malton, and Mr. Fergusson, of King's College Hospital. By the former it was successful in an old man who was an unfortunate subject: with the latter it failed. This has drawn from Mr. Fergusson some practical remarks on the subject, from which we may perceive that, although he cannot altogether disapprove of the operation, he looks upon it as doubtful whether it ought to supersede the more practised one of lithotomy, even in the cases for which it is said to be most adapted.

Mr. Fergusson will no doubt hesitate about relinquishing an operation in which he has been very successful, for one which has yet to be established by a sufficient number of cases. But from all the information which we have been enabled to gather on the subject, we think that if the cases are properly selected for lithectasy, and if the directions for its performance be carefully attended to, it will be proved to be even more successful than lithotomy, which has nothing to boast of on this point. In old subjects, with small stones, and where sufficient time is given to cause the dilatation, we think considerable success may be anticipated with much less pain to the patient. In Mr. Fergusson's case, the incision along the raphe of the scrotum was about an inch and a half, terminating about half an inch in front of the anus, from which point two incisions, each about three-fourths of an inch in length, were carried downwards and outwards. The point of the knife was then thrust into the groove of the

staff a little in front of the triangular ligament. The edge of the blade was so applied as to divide the triangular ligament to a slight extent, first downwards and outwards on one side, and then in a similar way on the other; the groove of the staff being then directly felt by the forefinger of the left hand, the metal point of an Arnott's dilator was placed within it, and slid cautiously into the bladder. The staff was next withdrawn, and the bag of the dilator was partially distended with a solution of gum arabic; the distention being continued till it caused pain. The dilatation was kept up by a succession of dilators till next day at nine o'clock, about nineteen hours, when the last dilator was found to be one inch and a quarter in diameter. a size sufficient to allow of the extraction of a stone of considerable size. The forefinger was then passed into the bladder, and the stone being felt, a small pair of forceps were introduced, and the stone easily seized. It seemed, however, too large to pass rapidly; a larger pair of forceps were next tried, and then a hook, but still the stone could not be extracted. The forceps were again introduced, and on seizing the stone and employing some force it was split into fragments, which was readily removed. Now in all these proceedings we must say that more force and violence seem to have been used than in a case of lithectasy was warranted; it would have been more properly and safely applied in a case of lithotomy where the prostate had been already notched in a proper direction, so that laceration, if it did occur, would probably be extended in the right direction downwards and outwards. But one great principle in lithectasy is to be careful not to employ force in the extraction of the stone, except it be very gradually applied, in the same way as by the fluid dilator. In this case we think it would have been better to have crushed the stone at once when it was found to be too large to be easily extracted, or to have resorted to the dilator once more, so as to increase the diameter of the orifice which we know could easily have been done. We make these remarks chiefly for the purpose of showing that this case of Mr. Fergusson's must not be looked upon as detracting from the value of the operation, for he himself candidly confesses, "that in this particular instance, the operation had not received every justice, far more force had been used than was in accordance with the principles on which it should be conducted," and, "he had applied as much force as he occasionally used in lithotomy," which was sometimes considerable. Mr. Fergusson is exceedingly candid in acknowledging his own errors, a sure proof that his reputation and skill were not likely to be injured thereby; and he also takes advantage of his experience in pointing out what ought to be done in future, viz., that when the stone is found to be large, it ought to be broken at once, as was done by Dr. Wright in his case, and that when this is suspected, a longer time ought to be occupied in the dilatation.

It seems very probable that when the stone is large it will always be better extracted by lithotomy than by lithectasy, for, amongst other reasons, the forceps can always be better manipulated when the wound, as in lithotomy, extends down alongside of the anus, and the forceps can be more readily depressed, than when these manœuvers are conducted near the angle of the pubes, and consequently, in the narrowest part of the space between the bones, a part which the experienced lithotomist is always careful to avoid. There is one point in Mr. Fergusson's case which is well worth attending to, and that is the triangular or X-shaped incision which was made. It will give more room than a single line, and will make the perineum more shallow, while from being in the middle of the perineum it will permit of an equal distention on both sides. One of the most important questions on this subject is the length of time the dilatation should occupy. Nature is very slow in this respect, and we ought perhaps to imitate her example; at any rate there will be much less risk in dilating too slowly than too rapidly. In Dr. Arnott's paper. the reader will find many valuable suggestions on this interesting operation. (64.)

Since our last publication, more cases of extirpation of diseased ovaria have occured; but none require much notice except the one of Dr. F. Bird. This gentleman has operated with success without making the very large section of the abdominal parietes adopted by Dr. Clay, Mr. Walne, and others. There

are certainly many objections to the small peritoneal section, and although the large operation has been successful, there may be cases where a smaller incision will be sufficient without adopting the very small one which is now generally condemned. Dr. Bird is of this opinion, and in a case which came under his care, he adopted this middle course, making an incision of about four inches, and then emptying the sac with an elastic catheter, previous to its extraction. We cannot but think that Dr. Bird's remarks are very judicious, and that where a moderate incision will do, it is unnecessary to extend it. There are few ovarian cysts that cannot be reduced in size more or less by drawing off the fluid through a catheter previous to the operation, and if by this means an incision of four or five inches is sufficient for all necessary manipulation, we see no reason why it should be extended to double that length. At any rate, where from the nature of the tumour, it is necessary to enlarge the incision, this can be done with perfect ease.

Since the publication of these cases, some attention has been paid to the diagnosis of different kinds of ovarian enlargement. There are solid growths or tumours of the ovaries, whether of a malignant or non-malignant character, which are occasionally attended with ascites, and have been mistaken for encysted dropsy. Dr. Kilgour, of Aberdeen, has published some excellent remarks on this subject, in which he adduces the valuable observations of Cruvielhier. This author furnishes us with two very important diagnostics. 1st. In ascites the liquid always occupies the most dependent parts, viz., the pelvis and lumbar region; whilst the small intestines floating in the fluid, correspond to the umbilical region, and the arch of the colon and stomach occupy the epigastrium. Percussion, therefore, elicits a dull sound over the hypogastric and lumbar regions; whereas, in encysted dropsy, the cyst developes itself anteriorly to the intestines which it pushes back, so that here the tympanitic sound does not exist. In ascites the fluctuation is more decided than in encysted ovarian dropsy. 2d. In ascites the neck of the womb is in its proper place, while in encysted ovarian dropsy it is actually drawn upwards, so that it is difficult to reach it; the pelvic cavity being also in some measure filled by the tumour; and the general health is often good; while in ascites this is not the case, anasarca also often accompanying it. If a solid ovarian tumour co-exist with ascites, it may generally be known by its *mobility;* it moves up and down in the fluid, striking the finger exactly like the child in utero, in what is termed the *ballotement.* In the encysted dropsy, if a solid tumour is present, it is fixed; it is outside the cyst or bag of water, or forms part of the wall of the cyst, and cannot readily move about. But we apprehend that in these as well as in most, if not all the diseases of the womb and contiguous parts, we shall find Dr. Simpson's *uterine sound* or *bougie* one of the most important means of diagnosis which has lately been brought before the public. To those who are not accustomed to the manipulations which are frequently called for during parturition, it may appear that any interference with its internal surface, with such an instrument as that used by Dr. Simpson, is an unwarrantable proceeding. But we can support the testimony of Dr. Simpson and Dr. Cumming, as to the harmlessness of such an operation, by our own experience, which has been, perhaps, second to very few in the North of England.

In diseases of the womb and its appendages, we have only been able hitherto to extend our physical examination to the neck and lower portion of the body. If the womb were very large, we might perhaps feel the fundus through the walls of the abdomen, but from its mobility and low situation, this would be of little service; in short, we are constantly in doubt when examining any tumour in this region, whether it be an enlargement of the whole mass of the womb or a distention of its cavity, or a morbid growth; and if the latter, whether the growth be seated in the womb itself, or in one of the ovaries or other neighbouring parts. To assist in the diagnosis of diseases of these parts, Dr. Simpson has been in the habit of using a metallic *uterine sound* or *bougie*, of nearly the size and shape of a small male catheter, which is to be introduced into the womb and manipulated in the way which we will describe. It is particularly useful when we want to ascertain the state of the fundus, body, and cavity of the womb, and

also when any particular solid tumour or fluid cyst is connected with that organ. It is provided, like the common male sound, with a flat handle, and terminates in a rounded knob or bulb. Its stem is thicker at its upper part, and tapers gradually from the knob to the handle. By being thin next the handle, it allows of more extensive movement in the mouth and neck of the womb, and its increased thickness at the other end gives it strength. The stem is about nine inches long, and graduated so as to enable us to measure the depth of the parts. In introducing this bougie the patient may be placed on her back or left side, and having felt for the os uteri, the practitioner can easily glide the instrument into the womb, the internal surface of which, when in a healthy state, is not more sensible than that of the vagina, so that when any severe pain is felt, it may be considered as indicative of some morbid condition. When the instrument is in the womb, the practitioner can give that organ sufficient resistance for its exploration by the fingers, and he can alter its position as he pleases. He can thus fix the fundus, and even move it about, so as to enable him with his other hand on the abdomen to examine its external surface and walls, and to ascertain what connections any other tumour may have with it. The great mobility of the uterus is well known. Its position is changed by many of the movements of the bladder and rectum; it may be drawn down by instruments till the cervix reach the external parts; and therefore the uterine sound will enable us to move it about in rather a startling manner. The instrument being metallic, can be bent to any shape, so that when we want to bring the fundus uteri more immediately under our fingers in our hypogastric examinations, the extremity should be bent upon its stem at as nearly a right angle as the conformation of the genital canals admit, and, after being introduced, its handle should be well retracted towards the perineum. By this proceeding the body and fundus of the womb will be more easily and fully turned forwards.

This mode of examination will also be particularly valuable in the early stages of ovarian tumours. The ovary lies behind the womb, so that if the sound shows the tumour to lie on the *anterior* surface of the uterus, or in other words, if the uterine cavity runs up the posterior surface of the morbid mass, the disease may be considered as certainly not ovarian. This remark will only apply to those cases in which the tumour is still not so large as to have passed out of the pelvic cavity and become abdominal. (67.)

While we are on this subject, we may say that according to the investigations of a writer in the British and Foreign Medical Review, there is too much reason to suspect that the statements of Dr. Clay are not altogether impartial; and we must confess that since the different cases alluded to by this gentleman, and others which he has omitted to notice, have been minutely examined, they do not bear out the conclusions which he has come to respecting either its legitimacy or success. We have not room here to go over the subject, but would strongly recommend those who are about to undertake the operation to read the article at length in Dr. Forbe's Review, where all the cases are particularly referred to. We understand, however, that Dr. Clay has several more cases to publish, and we shall endeavour to give a candid report of them when they appear. (65.)

The opinions of medical men, as to the source from which bones are repaired after necrosis, have been divided between the soft parts and periosteum on the one hand and the bone on the other. Bone may be deposited in most parts of the body, and also by the periosteum and soft parts in the neighbourhood of bone; but it does not seem probable that these are the efficient agents in the process when any extensive formation of bone is required. It seems more probable that this is accomplished by bone, and especially by the epiphyses in the long bones, after certain dead portions have been extracted. Hence when no epiphysis is present, as in the cranial and other flat bones, we perceive little effort to be made for the renewal of any displaced portions. So great is this power of reformation in the long bones of young people that in a very interesting case related by Dr. Lawrie, of Glasgow, almost the entire tibia, with the exception of the epiphyses, was removed and completely renewed, the leg becoming as useful as ever. In a previous case in which amputation above the knee had

been performed Dr. Lawrie perceived, on inspecting the amputated limb, that the epiphyses at each extremity was throwing out ossific matter with great energy; and if time had been given and the health of the patient had held out, the tibia might have been completely renovated after the removal of the old portions. It was this circumstance which led him to rely on the power of nature in his second case; and he was not disappointed. This, however, is not always to be relied upon, for in a case under puberty, related by Mr. Fergusson, the anterior half of nearly the whole tibia separated by necrosis without any reproduction of bone; and although the skin cicatrized the limb gave way under the weight of the body, and bent so much that the patient requested amputation to be performed. The cases, however, of Dr. Lawrie are exceedingly interesting both in a physiological and a practical point of view. One case shows that the deposits of bone had extended from the epiphyses of the knee and ankle, so as nearly to meet in the middle of the leg, and, if time had been allowed, they would have done so. The periosteum was separated all around from the head shaft, and there were but few deposits of bone from either of these parts; they arose chiefly from the epiphyses. Several other cases of the regeneration of the long bones will be found in Mr. Cooper's Surgical Dictionary, but none more interesting than these cases of Dr. Lawrie. (66.)

In our last Retrospect we referred to the cases of aneurism which had been cured by partial and interrupted compression of the vessel. This is certainly one of the most important improvements in surgery which we have lately referred to. Since the time of Hunter the simplicity introduced into the treatment of aneurism by tying the vessel seems to have prevented the simpler method of compression from being often tried, more especially since this compression was generally applied, to the great discomfort of the patient, immediately upon the tumour, and the entire limb was occasionally compressed at the same time by a bandage. Valsalva's treatment was often conjoined, viz., perfect rest in the horizontal posture, very low diet, and frequent bloodletting. Various methods of compressing the artery have been from time to time adopted, but the success has generally been so partial that all modern surgeons till the present time have rather discouraged any attempts of this kind: partly owing to the imperfect construction of the instruments, and partly from a mistaken theory respecting the mode in which pressure acted, or from ignorance of the exact amount of pressure required, thinking that it was necessary completely to interrupt the current of blood in the vessel; whereas this last circumstance is most likely to retard the cure of the disease, as it must in some measure cause obliteration of the artery at that part to which the pressure has been made. A partial current, however, through an aneurismal sac has been found to lead to the deposition of fibrine in its interior, and to cause it to be filled and obstructed: the fibrine becomes entangled in the parietes of the sac in the first instance, and this goes on increased until it becomes filled. In all these cases Dr. Bellingham recommends Valsalva's treatment, above mentioned, to be conjoined. (68.)

Mr. James, of Exeter, brought before the meeting of the Provincial Medical Association at Leeds several cases in which the severe contraction after burns had been considerably relieved by a regular system of extension. Dr. Mutter of Philadelphia, relates several remarkable cases in which the old cicatrices were entirely dissected out, and a fresh and healthy portion of the neighbouring skin introduced in their place. But even this, although a bold and in many cases a successful operation, will sometimes fail. (See Retrospect, Part VI., art. 51.). These remarks more especially apply to cicatrices of the neck. Mr. James's treatment consists in dissecting the hardened cicatrix from the neighbouring parts and covering the large exposed surface with moistened lint, and bread and water poultices confined by a paste-board collar, until suppuration is freely established. He then applies what he calls a screw-collar, by means of which he can elevate the chin and keep it at any particular degree of elevation till a fresh cicatrix has formed. (70.)

Mr. Spence, of Edinburgh, has pointed out an important omission, by different authors and experimenters, on the process which nature adopts, after the application of a ligature, to close the divided ends of an artery. The use of the ex-

ternal coagulum and the deposit of coagulable lymph has never been insisted on as particularly essential to the success of the process. While all writers are now convinced of the utility of the divided internal coat, many of them disagree as to the use of the lymph or coagulum outside the vessel, some, as Mr. Allan Burns, supposing that it is necessary, up to a certain stage of the process, viz., until by its pressure it shall have excited such a degree of irritation as to give rise to adhesive inflammation between the opposite surfaces of the internal tunics of the vessel, to a greater extent than the presence of the ligature alone could produce; others, as Jones, Travers, Guthrie, &c., look upon the clot as merely an adventitious circumstance, which, when it takes place, may assist, but is not essential to the completion of the process. Now although these opinions are more or less correct, we think with Mr. Spence that sufficient stress has not been laid upon the changes which take place outside the vessel. If the changes are attentively observed, it will be found that on the 13th day, when the ligature has fairly come away, the lymph has assumed the appearance of a firm connecting medium uniting the divided ends of the vessel, not unlike the exuberant callus in a fracture; on the 28th day this lymph has become firmer, and the vessel has the appearance of a firm impervious cord. So that we may perceive that this deposit of lymph is not only useful in connecting the divided ends of the vessel, and thus supporting the adhesion of the internal coats at the period of separation of the ligature, but by its pressure it will also diminish the calibre of the vessel, and thereby lessen the impulse of the blood in the neighbourhood of the ligature. The conclusion becomes more obvious when we remember the success which has lately attended the application of a ligature at a very short distance from the point where a large branch was given off, as in the case of Dr. Bellingham, where it was applied to the external iliac within half an inch of the bifurcation of the common iliac. (See Retrospect, Part vii., art. 57.) (71.)

In those affections of the brain which have resisted all ordinary remedies, in paralysis, impending effusions, convulsions, erysipelas of the head and membranes of the brain; in the very advanced stages of fever, &c. Dr. Wallis, of Bristol, has used with success in many cases, a very severe mode of counter-irritation, first brought into notice by Mr. Smith, senior surgeon of the Bristol Infirmary. This is done by making a longitudinal incision or issue on the calvarium. The head is first to be shaved, and the scalp put on the stretch by the operator's left hand; the incision is then to be commenced between the thumb and fore-finger as far back as the lambdoidal suture, and the scalp is to be divided entirely through at once, and the incision carried directly along the sagittal suture, as far as the hair grows on the scalp. Care should be taken that the scalp be divided entirely and perfectly through, so that the edges of the wound will separate so far as to permit a dossil of lint, as thick as two fingers, well soaked in spirit of turpentine to be introduced. If the scalp is not thus completely incised the arteries will not be sufficiently divided to cause contraction, and they may bleed to an inconvenient degree. If the hæmorrhage is not desired it may be checked by pressure, or the actual cautery applied for a moment to the arteries. When the dossil of lint has been introduced into the wound, adhesive straps may be applied till the next day, when the fear of hæmorrhage will have subsided. The lint and straps being removed, a poultice may be applied, and if suppuration be not inclined to come on by the second or third day, a little spirit of turpentine may be rubbed up with some unguentum resinæ flavæ, or even a little blister ointment may be used. In a few days a double row of peas, 70 or 80 strung together, may be used to prevent granulations filling up the issue, a point rather difficult to accomplish, especially in chronic diseases where the issue is required to be kept open three or four months: indeed this cannot be done without the repeated use of caustic. We confess that this seems to be a most severe proceeding, and we should not have ventured to publish the account if the practice had not been recommended by such good authority. Of course, such a remedy ought seldom or never to be used in the first onset of a disease, and in acute cases the greatest discrimination will be required to use it at the proper time. (72.)

The case of Mr. Brunel in whose windpipe a half sovereign was accidentally

lodged, has given rise to one or two practical suggestions which on future occasions will be found valuable. Although the symptoms in such a case may not be immediately dangerous. disease of the lungs would very probably take place sooner or later, and, therefore, it would be always wise to take the necessary steps for the removal of such a foreign body without loss of time. The opening in the trachea in Mr. Brunel's case answered one important end, viz., it enabled the patient to be inverted without giving rise to violent symptoms of suffocation, which took place on this change of position before this orifice was made. From this circumstance Sir B. Brodie comes to the conclusion that in all similar cases where it is necessary to invert the body for the sake of dislodging a foreign substance from the lower part of the windpipe or its bifurcations, tracheotomy ought always to be previously performed. This will always act like a safety-valve to prevent suffocation, and will also enable the practitioner to manipulate with the forceps or any other instrument that he may wish to use. At the same time it will be seen from the experience of Mr. Erichsen that such an opening in the trachea does not materially diminish the irritability and contractility of the glottis; and for this reason he has suggested an instrument which will answer the double purpose of intercepting any foreign body which might fall downwards towards the larynx during the inverted position of the body, and of a scoop so as to extract the substance when it is caught in its net. "It consists of a pair of cross action forceps, the blades of which terminate in branches 2½ inches in length, and slightly bowed at the extremities; within the bowed part is inserted a piece of delicate but strong net: the forceps open to the extent of three quarters of an inch, which will be sufficient to obstruct all passage through the windpipe in the ordinary situation for tracheotomy." When the patient is inverted it is evident that any foreign body would be very likely to fall into this net, and might then be removed at once, or by a pair of common forceps. (73.)

It is scarcely necessary, in introducing an improvement in the treatment of strangulated hernia, to go over the more ordinary methods of reduction. Every medical student of a few years' standing, will now be able to recapitulate the treatment by the taxis, by blood-letting, by the warm bath, cold applications, injections of tobacco, purgatives, and purgative enemata, the exhausting syringe of the stomach-pump, antispasmodics, opium, belladonna, and lastly, by means of dividing the stricture. Some of these more ordinary means of treatment have been lately improved; and Dr. James Arnott, of Brighton, offers for consideration some remedial measures on a principle different from any hitherto applied. Two of the best and simplest methods of reduction are long-contin ued pressure of the hernial tumour and the application of cold to it. But neither of these modes have hitherto been perfectly applied singly, or conjointly. If they are so often successful when applied separately in the way which is usually adopted, we think that they may be still more so when applied conjointly in the way recommended by Dr. Arnott. The continued application of cold and pressure will reduce the volume of the gas in the intestine, and materially aid in keeping down inflammatory action. It may be accomplished by placing a bladder of water upon the hernial tumour, and keeping up pressure upon it by the hands or some other contrivance; and at the same time by causing a current or constant change of water in the bladder by means of two tubes, one conveying the water to the bladder from a reservoir above, and the other conveying it away to a receiving vessel. The bladder should be confined to the hernial tumour by a metallic or wooden case, in the form of a basin, or by a small flower-pot, of considerably smaller diameter than its own, and having an opening in the centre for the passage of the current tubes. By this means the hernial tumour will be completely surrounded by, and imbedded in the bladder, which may be kept at the required pressure by a bandage or truss. (For further details respecting the local application of heat and cold, see Dr. Arnott's paper in the Lancet for June 25, 1842.)

This constant change of cold water will be found to produce even a more powerful effect than when ice is used; in the same way that a heated substance is more quickly cooled by exposure to a current of air than when exposed to a

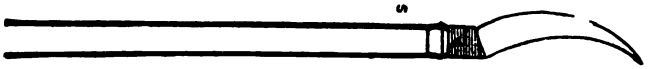
still air of a lower temperature. When this apparatus is properly secured and brought into regular action, it may be continued while other measures are resorted to; and even in old irreducible herniæ it may be found occasionally successful, even when the tedious means adopted by Arnaud have been abandoned. Many practitioners might decline adopting these measures on account of the trouble attending them; in this case we would recommend a common bladder to be filled with ice or the coldest water, and the pressure to be made by some folds of sheet-lead or a saucer, which will enable any one to keep it up steadily and equably. This should be done in the position which is best adapted to the taxis; but as this could not easily be done in cases of irreducible hernia, which require a very long and tedious application of these means, the equable pressure of condensed air may occasionally be substituted, in the way recommended by Dr. Arnott, in his treatise on strictures of the urethra, viz., by means of a Mackintosh air-case, which ought to be thin where it is applied to the skin, and of larger dimensions than the outer part, for the purpose of its coming closely in contact with all the inequalities of the surface. Perhaps few subjects in surgery have been more neglected than the treatment of irreducible hernia. The patient is allowed to go through life exposed to all the hazards of his situation without any long-continued attempt to relieve him. These cases may probably one day be found more curable than is at present supposed. We know that pressure steadily applied will cause the absorption of morbid growths or adventitious matter; and even scirrhous and malignant tumours have been known to yield to it. It will be evident to every one that this can be applied to a globular tumour better by the means recommended by Dr. Arnott, than by the application of a bandage. It seems now to be the opinion of some of our most eminent surgeons, that before the operation for strangulated hernia is had recourse to, the forcible distention of the bowel, below the stricture by the injection of a sufficient quantity of fluid, ought invariably to be tried. The principle of this practice may be illustrated by a very simple experiment. "Put a loop or fold of the intestine of a pig between two fingers, and distend it by a syringe, whilst the fingers are strongly grasping the loop. Immediately on the gut becoming filled, its loop (representing the strangulated portion of intestine) is gradually but powerfully withdrawn from between the fingers." This method would be more useful when the colon is the part protruded as in umbilical hernia: where the small intestine is strangulated, the injection must be forced beyond the valve of the ileum, an operation which has frequently been accomplished. The same means may be used in intus-susception: and in this affection Dr. Arnott has found that rapid mercurialization has frequently been a means of relieving the patient. Some practitioners have recommended that before the actual division of the stricture by the knife is adopted, dilatation of the part should be attempted.

But we think that however plausible this may appear, the instrument by which it is to be done satisfactorily, has not yet been discovered. On this point we do not think Dr. Arnott's advice is judicious. He says "two or more broad, flat probes, with wedge-like, blunt points, might often be inserted on opposite sides of the intestine, and the stricture be stretched by separating them in a parallel direction, either by the hands alone or by easily contrived mechanism on the principle of the hand-screw." With this opinion we cannot agree, and yet it is very possible that at some future time dilatation may be made useful for this dangerous affection. (74.)

The term *pannus* has generally been applied to an opaque vascular thickening of the layer of the conjunctiva covering the cornea, generally produced by the continuance of purulent or strumous ophthalmia, or by chronic inflammation of the cornea. During the course of these affections, especially the first, the palpebral lining becomes completely altered in structure, giving rise to what is called a granulated state of the eyelids, which by its mechanical friction on the surface of the cornea, causes its vessels to be enlarged, loosening and thickening its conjunctival layer; hence haziness, a nebulous state, or great opacity. The treatment of this affection has confessedly been one of the most difficult and tedious in surgery. Various plans have been adopted; the removal

of the palpebral conjunctiva by the knife or scissors, occasional small bleedings by one or two leeches or by scarifications, alternated with the use of astringents of diacetate of lead or sulphate of copper, besides numerous other methods, have been tried in vain, and when the disease has gained considerable ground it is too often irremediable. In these cases, therefore, we are delighted to find that the German ophthalmologists have discovered a remedy which holds out better hopes of cure than any we have yet possessed. This consists in inoculating the diseased conjunctiva with the matter of gonorrhœa, which, however, ought not to be done unless the pannus is complete. Other no less important contra-indications would be the existence of any bad habit of body, especially struma, gout, rheumatism, syphilis, &c. The virus should be selected from a case of mild gonorrhœa, or from a child labouring under purulent ophthalmia. The disease will run its course more mildly than in a healthy eye, and it has been frequently found to leave the cornea perfectly clear in ten or fourteen days, oftener, however, requiring six weeks. If one inoculation does not succeed, another should be performed. In one case it was done five times. One very curious circumstance was noticed in some of these cases, which beautifully proves the intimate sympathy which exists between the two eyes. When both were affected with the disease it was only necessary to inoculate one. As soon as one eye began to improve, the pannus of the other likewise began to disappear, and both eyes were actually cured together. And therefore the rule now is that when both eyes are affected, the inoculation of the one suffices for the cure of both. We are indebted to Dr. Robert Hamilton, of Edinburgh, for introducing this improvement into this country. (75.)

Mr. Scott recommends a new kind of knife for the section of the cornea in cases of extraction of cataract. It is something like a broad, slightly curved bistoury with a cutting edge only on the convex part. It is of sufficient length to traverse completely the anterior chamber, and increases in width and thickness from point to heel, enough only to prevent the escape of the aqueous humour, but without any reference to the dimensions of the section that is to be made. It is to be pushed through the cornea at the temporal margin with its cutting convex edge downwards, so that while it is passing to the other side of



the cornea, the convex cutting edge is situated so much below the edge of the iris that this body is not in that danger of getting under its sharp edge, as it is when using the common cataract-knife. Mr. Scott prefers in all cases making the upper section of the cornea, as that enables him, among other advantages, to have command over the upper eyelid himself, and thus to regulate the degree of pressure on the globe without the aid of an assistant. In making the upper section of the cornea with this knife, it is to be held in the usual manner, between the thumb and two fore-fingers, the two other fingers resting on the patient's cheek, and the handle of the knife slightly inclined towards the side of the face, while the point punctures the cornea on its temporal margin; the handle of the knife is then to be brought upwards with a sweep as the blade traverses the anterior chamber; and when it has punctured the nasal side of the cornea, the handle will be nearly at a right angle with the temple. The knife is then to be carried completely across the anterior chamber; in doing this great care must be taken to press firmly downwards with the back of the instrument, so that the wound may not be unnecessarily enlarged by its cutting edge. This being accomplished, the point of the knife will have reached the nasal canthus of the orbit, and its cutting edge will be so far beyond the pupillary margin of the iris that it cannot be readily divided in completing the section of the cornea. The point of the knife is then to be carried upwards, the handle being slightly inclined in the opposite direction The section of the cornea on its nasal side will now be complete, a small portion at the upper and outer part only remaining to be divided; and this is readily done in the withdrawing of the instrument

In this way, the cornea being transfixed by an instrument of such size only as will prevent the escape of the aqueous humour, no unnecessary force is employed, either in accomplishing this object or in preventing the eye from rolling inward. The section is completed, not by thrusting a wedge-shaped knife through the anterior chamber, the cutting edge of which divides the circumference of the cornea, only by the force with which its back is pressed against the opposite side of the section, but by an instrument that accomplishes the division of the membrane independently of any such pressure on its back. No unnecessary force is, therefore, had recourse to, and consequently spasm of the muscles of the globe is much less liable to occur; the aqueous humour is much less likely to escape; and if it should do so, the shape of the knife and its position in the anterior chamber are such, that the iris can scarcely fall forward before its edge; and even if this should be the case, it will much more readily recede behind it, under the slightest pressure of the finger on the cornea."*

The moveable needle knife has lately been used in several cases by Dr. Mackenzie, of Glasgow, for the section of the cornea. Although this instrument has been long known, it has not been much used of late, and we must say that we cannot perceive sufficient advantage in its use, to make us out of love with either Beer's or Wenzel's knives; and we should think it inferior to the curved knife above described by Mr. Scott. It consists of a needle which is pushed through the cornea across the anterior chamber, and a triangular knife, like Beer's, which slides along the needle till it completes the section of the cornea. There is certainly one important advantage in the use of this instrument, viz., the needle can traverse the anterior chamber, puncturing the cornea at both sides, with less risk of the escape of the aqueous humour, and the counter-puncturation of the cornea being effected, the knife can be glided along its director with safety and steadiness to its opposite destination whether the aqueous humour now escape or not. (77.)

Professor Rosas, in his operation for extracting cataract divides the cornea somewhat differently to most modern operators, and with a knife which is sharp on both edges. This knife is short, and convex at its posterior edge. Having passed his knife through both outer and inner portions of the cornea, he does not continue to push the knife towards the nose, but *draws* it slowly downwards and slightly outwards, and so completes the section. If the case is one of double cataract, he makes the corneal section, and concludes the operation on the second eye before he extracts the lens of the first. The object of the knife being sharp on both edges is to permit the operator to cut upwards as well as downwards if necessary; and in this way Rosas operates with great success, showing at any rate that in this branch of surgery success is more attributable to the skill of the operator than to the kind of instrument which he uses; for we should be afraid that most surgeons, by cutting upwards or backwards with the posterior cutting edge of the knife, would endanger either the iris or sclerotica; and when the iris rolls over the back of the knife, which it is so liable to do, it could not be pressed off with the same facility as when the posterior part is blunt. (83.)

Pressure applied to diseased parts, when judiciously employed, has long been regarded as a valuable remedy in particular diseases, in some cases of diseased testicle for example; this has generally been applied by means of straps of plaster, or some such application, which, however, cannot be properly or durably applied. Dr. Krauss suggests the adoption of compression by condensed air, in Mackintosh bags, variously shaped, so as to fit the different parts of the body which are most liable to require such applications. He would surround a diseased testicle with one of these air cushions, consisting of two bags, one hanging in the other, and both narrow on the top, to surround the spermatic cord. Each bag is open on one side, from the top to the bottom, and they are attached to each other by their corresponding edges, so as to leave between them an air-tight space, accessible only by means of an air-tight screw, fixed to the bottom of the outer bag. Along the side opening are holes to lace the double bag, pre-

* Cataract and its treatment, comprising an easy mode of dividing the cornea, for its extraction, &c. By John Scott, senior surgeon to the Royal London Ophthalmic Hospital, surgeon to the London Hospital, &c., Churchill.

viously to its being inflated, around the testicle, and it is subsequently filled with air, by means of a simple air pump. The inside bag is thus uniformly pressed against the whole of the scrotum contained in the air bag. On the swelling of the testicle decreasing, more air can easily be introduced, or, on the other hand, if necessary, the degree of pressure can be reduced by allowing part of the air to escape. We have long since recommended air-pessaries for the support of prolapsions of the womb, and we are pleased to see a similar suggestion by Dr. Krauss. A bag of any shape and size could easily be made and introduced empty, or nearly so, into the vagina: it could then be distended to any degree which might be required, and would be one of the most comfortable and most effectual means of supporting these displacements. Pressure by means of properly adapted air or water bags may also be of essential use in the treatment of different kinds of tumours. (79.)

The ter-chloride of carbon has been used for some time past with success in the Middlesex Hospital as an internal and external remedy in cancer and some other diseases. Mr. Tuson publishes an interesting paper on this practice, which, if corroborated by further experience, will be a valuable addition to our remedies in such cases. It was first ordered as a local application in a case of cancer of the breast, one drachm being mixed with a pint of water. The pain was relieved immediately. It was then given internally, one drop increased to two or three drops in a little water three times a-day. The effect was sedative, procuring sleep for twenty-four hours. The cancer afterwards sloughed and considerable pieces came away, the surface left having a healthy granulated appearance. In another case it was used for a cancer in the groin. The same sedative effect was produced, followed by similar sloughing. Its sedative effects to be confined to patients labouring under cancer and one or two other diseases, having no such power in other cases. It is also recommended in gangrena senilis, its antiseptic property being here as remarkable as in cancer, the fetor being completely destroyed by its use. Also in sloughing ulcers, in uterine affections, carcinoma, scirrhus, ulcerated surfaces with profuse discharge, its use as an injection has produced the greatest benefit. It may also be useful in neuralgic affections. (81.)

Dr. James Orr has suggested an improvement in the common operation of cupping. Instead of using the ordinary apparatus with spirits of wine, he produces a vacuum by means of suction with the mouth. The cupping-glass is like the one in common use, with this exception, that at its top there is a small tube, terminated by a valve made by tying a bit of bladder over it, and well secured with a thread round the neck of the tube. By applying the mouth to this tube, and sucking in the way that is done when a woman's breast is being drawn by the common sucking bottle, almost any required vacuum may be produced, the little bit of skin being elevated to an extent that is sufficient to allow the air within the cup to escape; and when the mouth is removed from the tube the pressure of the atmosphere forces the skin so close to the tube as to prevent the ingress of the air. But although this may be a very economical form of instrument, and may take up less room in the pocket of the surgeon, it seems to us inferior to that form of instrument which is now made with an exhausting syringe attached to it. Dr. Orr, however, makes another suggestion which may prove an advantage. After the part has been scarified, he puts about an ounce of hot water into the cupping-glass before he causes the vacuum. The water may be made much hotter than could be borne in ordinary fomentation, owing to the insensibility of the skin produced by the tightening of the cupping-glass. This form of cupping-glass with the addition of hot water may occasionally be very useful after the application of leeches. (84.)

Cases of strangulated hernia continue to be published, in which, after unsuccessful attempts at reduction in all the ordinary ways, Dr. O'Beirne's method, by means of the tube of the stomach pump, succeeded. We have repeatedly referred to this subject in our former numbers, and therefore need not dwell upon it in detail. Mr. Collambell publishes a case of the kind in which he used most of the usual means of reduction without success. He then introduced the tube of the stomach pump into the rectum to the distance of twelve inches; he

then attached the syringe to the tube, and slowly injected two quarts of warm water; the syringe was then detached, and the water allowed to run off by the tube; the syringe being then re-attached, the air was exhausted, when the tumour was felt to be gradually diminishing, and by keeping up gentle pressure, the contents were returned into the abdomen. (85.)

In those cases of deafness which depend on a paralysis of the acoustic nerve, M. Jobert has used electro-puncture in the following way:—Stard's sound is introduced through the nasal fossa into the eustachian tube, and in this sound a long thin acupuncture needle is inserted, so as to fix itself in a point of the parietes of the eustachian tube, while the other end projects from the end of the sound; another acupuncture needle is implanted in the membrane of the tympanum. This being done, one of the conducting wires of a galvanic battery, of which the trough is filled with water and muriatic acid, is passed through the eye of one of the needles, and the end of the other conducting wire is made to touch the opposite needle. Any number of pairs of the battery, from eight to forty, may be used according to circumstances, of course beginning with the lowest number. At the moment the two poles are put in contact, there is a very painful shock in the ear and head, with convulsive motions; but this shock and pain cease immediately. Eight days should intervene between each operation. (86.)

M. Lisfranc is very fond of applying escharotics to the neck of the womb in cases of ulceration of that part. He generally uses a solution of mercury in an excess of nitric acid. In these cases the speculum is indispensable. The escharotic is to be applied very lightly, not with a view to destroy the ulcers, but to modify their vital state; to produce a new action in the parts. He uses a soft brush, or dossil of lint, and immediately after the application of the caustic, the part is to be well washed with cold water. (87.)

In a case of phagedenic ulcer of the septum nasi, which threatened to destroy the whole nose, Dr. Zwerina, of Vienna, arrested the disease by the chloride of zinc. One grain and a half of the salt was dissolved in one ounce of distilled water, and the scabs being removed, the sore was pencilled over several times a-day with the solution. At the end of a fortnight a healthy granulating surface was found underneath the thick crust which now covered the sore, and this being removed occasionally, and the solution re-applied, if cicatrized in five weeks. (88.)

It sometimes happens that a patient is affected with blindness from a palsy or excessive dilatation of the iris, which probably permits such a quantity of light to be admitted into the eye as to overpower the retina. This seems probable from the fact that occasionally, when the patient looks through a little hole in a card, his vision is considerably improved. It is very possible from the dilated and insensible pupil, and consequent blindness, that a practitioner might mistake such a case for amaurosis; and as the treatment of the one for the other would be highly improper, it is necessary to be aware of the existence of such cases. Mr. Ure and Mr. Arnott relate interesting cases of this blindness from an insensibility of the iris, and the former especially reminds us of the efficacious treatment of Serres, which consists of cauterising the circumference of the cornea by nitrate of silver.

The solid caustic should be scraped to a point, and gently wiped round the circumference of the cornea nearly at its junction with the sclerotica; this may be repeated every day or two, according to its effects, taking care not to produce too severe inflammation. But although this treatment may be occasionally very successful in an atonic state of the orbicular fibres of the iris, we should be disposed to try milder measures first, such as the vapour of ether or electricity. We should also recommend the use of turpentine, which has such a remarkable influence over the iris in many cases where every other remedy has failed. This may be given in doses of half a drachm or a drachm every night and morning, or thrice a-day. In some cases of night-blindness, related by Mr. Kidd, in which the iris partook of the sluggish and almost immoveable character which it assumes in real palsy (and which appearance is not described

by Mr. Bamfield in his treatise on this subject), the oil of turpentine exerted a most marked effect, and soon restored vision. (91.)

Dr. Clay says that in a case of fistula ani which came under his notice, he cured it with an injection of the tincture of iodine of the full strength ordered in the Pharmacopæia. The injection should be well thrown up the fistulous canal by a powerful syringe made of glass, and the operator should be certain that the injection passes through the whole length of the canal. This he can ascertain by passing up the rectum a bougie with a little lint round it; the iodine will be seen to stain the lint, if it have passed into the rectum. (93.)

Dr. Campbell Stewart recommends an alteration in the form of knife which is used to divide the stricture in inguinal and crural herniæ. "The instrument consists of a small convex knife and a hollow canula or tube. The knife is concealed in the canula which presents, at half an inch from its extremity, a notch of about two lines in length, and one line deep, for receiving the membranes which form the stricture; this opening is closed at top by a steel blade, presenting at one end a small shoulder, and at the other a wire-spring concealed in the handle. The knife small and convex, is strengthened by a shoulder on each side projecting a little higher than itself, and protecting its edge from contact with the canula into which it is introduced through an opening in the back of the handle." The knife is thus moveable and cuts both ways. (101.)

Dupuytren's method of curing a prolapsus ani in the adult was at first by excising a portion of the mucous membrane of the bowel, and afterwards by cutting away only the folds of the skin at the margin of the anus. The anus in these cases being immoderately dilatable, this process causes a degree of consolidation and contraction. It is seldom that this is required in the child. Sir Benj. Brodie's plan will generally succeed by injecting every morning 2 or 3 ounces of a lotion composed of ʒi of tinct. ferri muriatis and a pint of water: at the same time giving occasional gentle aperients, and not too much vegetable food. Dr. M'Cormac, reflecting on the method of Dupuytren, applies the same principle to cases of children in the following simple way. When the child goes to stool, the skin anterior to the anus is to be drawn to one side by means of the fingers extended around. At first the child may not be able to evacuate its bowel, but when encouraged to persevere it will do so, and will often, in this simple way, be entirely cured. (102.)

In the treatment of vascular nevus, Professor Smith of Baltimore saturates a thread with a saturated solution of caustic potash. This is dried by the fire, and a needle being armed with it, the base of the tumour is transfixed with the needle and the thread quietly drawn through the part. This is repeated in different parts of the tumour. The tumour will gradually waste away. On the subject of glaucoma there have been such differences of opinion that we could not find room, even if we had the inclination, to discuss the merits of each side of the question. In many of the standard works on the eye, we find the discovery of Purkinje (in 1833) is not referred to. We mean the reflection of a luminous body, such as a candle, from the anterior and posterior surfaces of the lens. In cataract, this diagnostic symptom is most valuable. An article on this subject will be found in Retrospect, Part 4, Art. 64. "If a lighted candle be held before the pupil of a sound eye, three reflected images of it are seen situated one behind the other. Of these the anterior and posterior are erect, the middle one inverted. The anterior is the brightest and most distinct, the posterior the least so. The middle one is the smallest. If the candle be moved, the two erect images follow it, but the inverted one moves in the opposite direction, though not so quickly and extensively as the other two. The anterior erect image is produced by the cornea; the posterior, by the anterior surface of the lens; and the middle or inverted image is from the posterior surface. If the whole crystalline body be opaque, no image but the anterior erect one from the cornea is seen. This is of course the case also, if the anterior part alone be opaque; but if it is the centre or posterior part only which is opaque, the two erect images are seen, but the middle or inverted one is not." Other very interesting information will be found in the paper referred to. This mode of examining the eye is valuable not only in cataract, but also in glauco-

ma and amaurosis. It is perfectly decisive in cases of amaurosis, for where the three images are perfect, we may be pretty sure that the defect of vision is owing to the retina or some part of the nervous apparatus. In glaucoma the lens may appear yellow and cataractous, but the inverted image is only obliterated at a very advanced stage, while it becomes so very early in cataract. In glaucoma the deep erect image is evident in all its stages, and becomes even larger and more evident than in the healthy eye, and of a yellow colour. Dr. Mackenzie in his examination of the eye affected with the disease found the chorid coat, and "especially that portion of it in contact with the retina, of a light brown colour, without any appearance of pigmentum nigrum;" and hence the opaque appearance of the deep-seated parts of the eye, arising probably from a reflection of light from the retina, choroid, and sclerotica. This reflected light "is probably bluish when it first leaves the reflecting surface formed by these membranes, but immediately assumes a greenish hue from passing through the yellowish fluid which still occupies the place of the vitreous humour, and through the lens, which is still more decidedly of a yellow, or even amber colour, at that period of life when glaucoma is most apt to attack the eye." (See Brit. and For. Med. Rev., July, 1843, p. 110-117.)

There is occasionly met with a case of black cataract in which these reflected images from the lens are particularly valuable; for in such a case we might easily mistake the disease for amaurosis. In a case of this description related by M. Magne, the patient was quite blind, but the pupil perfectly black, as in the healthy state. It was supposed to be amaurosis; but on trying a lighted candle in a dark room the deep-seated inverted image was absent, which induced M. Cruveilhier as well as M. Magne to decide that the lens was black, and that the immobility of the iris was owing to its adhesion to the lens. Both these facts were proved by a subsequent operation. (97.)

In some cases of enlarged bursæ we may adopt all the usual and simpler modes of treatment, and fail in dispersing them, or the treatment may be so tedious as to weary the patience of both surgeon and patient. We may blister and compress them, or pass a seton through, or make a valvular opening into them, and after letting out the fluid, incise the inner surface of the sac, or we may extirpate them with the knife. One of the best and safest plans of treating these bursæ is by blistering them, or by using the tincture of iodine as a counter-irritant. Where they are small, as over the wrist, the fluid may be let out with a needle and compression applied. In a case of inflamed bursa of the patella, in which the usual treatment had failed, Mr. Hale Thompson cut down upon it and carefully dissected it away. The coats of the bursa were at least a quarter of an inch thick. (Lancet, Aug. 12th, 1843, p. 697.)

Mr. Wilkison King published in the Guy's Hospital Reports for 1838, some statistics to show that most herniæ exist for years before they become subject to strangulation: and he has lately drawn the attention of the profession again to this subject, and endeavours to show that this fact has a very important influence in causing strangulation, which he asserts is not owing to the state of the sac, but to that of the bowel, in which defective nourishment and power of vessels lead to more ready tumefaction, and a peculiar and unhealthy kind of peritonitis. To obviate this inflammation, ought, perhaps, to form a more important indication of treatment than has generally been insisted upon. (Med. Gaz., May 5, 1843, p. 192.)

We have so repeatedly referred to the treatment of gonorrhœa in its different stages, that it is hardly necessary again to dwell upon the subject. We cannot help, however, recapitulating the modes of practice of some of those who have been most successful in this disease, especially in what is called the abortive treatment. Ricord lays it down as a rule that, in all cases where the disease is not complicated with phlegmonous inflammation of the structures surrounding the urethra, the abortive treatment ought to be in the first place attempted. He shows that stricture and most other evil consequences of gonorrhœa are owing rather to the persistency of inflammation than to the means of cure. His treatment is applicable to all periods of the disease when acute inflammation does not attend them; even a sub-acute degree of inflammation

does not contra-indicate the treatment. We need not remind the reader that injections of nitrate of silver form his chief remedy. He uses one injection a-day, composed of 10 grains to the ounce of distilled water, which need not be limited in its course to the first inch or two of the urethra, but may be allowed to pass throughout its extent, as the inflammation often extends beyond the bulb, and where no inflammation exists, the injection will do no harm; not even if it enter the bladder (which is not very likely), as it would be decomposed by the urine. This treatment gives rise to another kind of inflammation which would subside by desisting from the injections of nitrate of silver, but may more rapidly be dispelled by injecting 3 times a-day, a solution composed of 8 oz. of rose water, sulphate of zinc, and sub-acetate of lead, of each 17 grains. (Prov. Med. Jour., June 17th and 24th, 1843, pp. 226-243.)

In cases of gleet, Mr. Bennett Lucas prefers an injection composed of alum and water, from two to five grains to the ounce, or of acetate of zinc, two or three grains to the ounce. He has relinquished the nitrate of silver in this stage of the disease. The injection of port wine and tannin recommended by Ricord, and also by Mr. Langston Parker, he also thinks very useful. It is composed of 18 grains of tannin, in six ounces of port wine.

Mr. Childs adopts a mode of treatment at the very commencement of the disease still more energetic than that of Ricord, and most other writers on the subject. He applies the solid nitrate of silver to the part, by wiping it over the mucous membrane, by means of an armed bougie, a modification of Lallemand's caustic-holder. (Med. Gaz., July 28th, 1843, p. 647.)

We might here refer to several other improvements or useful suggestions, such as Dr. Wigan's treatment of tinea and several other really useful kinds of practice, but these will be found in the several short articles of "Surgery."

We will here direct the attention of our readers to some of the most practical and important publications which have come out of late, and chiefly within the present year, either in the form of first or second editions: and we wish we could devote a greater space to this part of our undertaking, as we think that a great mass of very interesting and truly practical information might be condensed into a small compass from the different works on medicine and surgery every half year. This would, however, require of us to publish another volume annually, or even two, which we hope would be as acceptable to the profession as this humble effort of our industry has already proved to be. In the remaining pages of this "Retrospect," the reader will find some excellent remarks taken from some of these recently published works; and we wish it to be distinctly known that in these observations we make use of the remarks of the authors themselves, and chiefly their own words; selecting those parts which we esteem as the most useful and practical, and avoiding those opinions and practices which might seem to us objectionable. By this means we avoid the disagreeable task of criticising and finding fault, and only present that food to the reader which is wholesome and nutritious.

The three most valuable works on surgery which have lately come under our notice are "The Elements of Surgery" and "Practical Surgery," by Mr. Liston, and "Practical Surgery," by Mr. Fergusson: works which ought to be in the possession of every practitioner and student of surgery. After recapitulating the different methods of breaking down stone in the bladder in the operation of lithotrity, Mr. Liston, in his "Elements of Surgery," gives his opinion of this operation as follows:

"It will be seen from what has been stated, that I am not so sanguine—and I trust I shall be excused of presumption in giving an opinion upon the subject—as to suppose that the breaking up of the stone in the bladder will ever entirely supersede lithotomy. That it would do so was at one time industriously represented, and perhaps believed, by some of the advocates and promoters of lithotrity. If, by some miraculous interposition of Providence, the deposits from the urine should uniformly be pulverisable, and that bladders be made of less irritable stuff than they are, and if, above all, the affected individuals could only be prevailed upon to apply in due time, then might such pleasant anticipations be

entertained, and then might we with some reason hope to see them realised; but as matters now are, urinary concretions must in a great many instances be cut out of the bladder. Nor is it a circumstance to be very much deplored, since, in good hands, the patient neither endures so much suffering, nor incurs so much risk, as by the proceeding already detailed. The cure, besides, is far less tedious. The stone-grinders, while they conceal their own unfortunate results, endeavour to depreciate lithotomy by blazoning abroad the practice of some unlucky surgeon, who, perhaps, loses four in twelve, or six in twelve of the patients who come under his knife. It has been said that lithotrity is applicable when, from the advanced age of the patients and the rigidity of the parts to be cut, lithotomy is not. This statement is incorrect, at least the latter part of it. Old people, from 70 to 80, and even beyond that age, recover when the operation is conducted quickly, without loss of blood, and so as to guard against infiltration, as certainly and rapidly as young persons. Within the last few years the apparatus for breaking up stones has been very much simplified and improved upon. The screw lithotrite can with great propriety and safety be employed in cases in which the concretion has not attained any very large size, and in which also the urinary apparatus is healthy, and tolerably free from irritability. The cases for this operation must be well chosen, and the proceedings conducted throughout with great caution, gentleness, and judgment. Very full directions are given in the 'Practical Surgery' for the performance of this operation. Before proceeding to incise, the finger is introduced into the rectum to ascertain that it is in an empty state, and also to promote its contraction. A knife is used, with blade and handle somewhat longer than those of a common dissecting knife, and within an inch and a half from the point—held lightly in the fingers, the end of the handle resting on the palm. It is introduced close to the raphe, on the left side, and nearly opposite to where the erector penis and accelerator urinæ approach each other. Its point is made to penetrate through the skin, fat, and superficial fascia of the perinæum, and is carried downwards with a slight sawing motion, by the side of the anus—about midway betwixt the anus and the point of the tuberosity of the ischiam—and is continued till nearly past the lower part of the orifice of the bowel. The fore-finger of the left hand is then introduced into the wound, and the resisting fibres of the transverse muscle of the perinæum, and of the levator ani, are touched with the edge of the knife directed downwards. Wound of the rectum is avoided by pressing it downwards and to the opposite side by the finger; indeed the finger should be constantly in the wound as a guide to the knife. In this stage of the proceedings, incision upwards would be likely to interfere with the artery of the bulb, whatever its distribution may be—whether the vessel come from the pudic, or from the posterior iliac. It occupies nearly the same relative situation in either case, and by care can always be avoided during the second incision."

Mr. Liston prefers the curved to the straight staff in lithotomy. He thinks that "this form of instrument will prove the most convenient guide into the bladder. It is introduced fairly into the viscus, and made to touch the stone audibly. Its concave surface is raised towards the arch of the pubes, and retained thus, firmly hooked under the bones—as if with the intent of lifting the patient from the table—perpendicularly straight, without any inclination of the handle, or any bulging of the convexity towards the perineum. After being properly placed, the instrument is intrusted to an experienced assistant, who keeps it exactly in the same position from the beginning to the conclusion of the incision. He at the same time elevates the scrotum, and, standing behind the patient, leaves the surgeon with both his hands at liberty, and with the patient's perineum all clear. The operator is thus enabled to guide the knife by the left hand; whereas, if he use a straight staff, his left hand must be solely devoted to the management of this instrument during the most delicate part of the incisions." Mr. Liston is of the same opinion as most of our best lithotomists with respect to the danger of using the knife too freely in the deep incision. When the membranous portion of the urethra is reached "the knife is passed over the back of the forefinger in the wound, and lodged in the groove of the staff; it is then carried forwards through the prostate, with the edge direc-

ted downwards and outwards, cutting the gland obliquely. In this incision the knife is raised very little from the groove, the object being to divide the gland to the extent of no more than barely three quarters of an inch. By so doing, the reflection of the pelvic fascia remains uninjured, and the boundary is left entire betwixt the external cellular tissue, and that loose and very fine texture immediately exterior to the bladder—betwixt it and the fascia lining the pelvis; thus the risk of urinary infiltration is done away with, at least much diminished. There is great danger in dividing the base of the prostate completely, and much more in cutting any part of the coats of the badder. When the knife enters the groove of the staff, this latter instrument must be held very steady; if it be at all withdrawn, its point may escape through the wound, and mislead the knife." "Through the prostatic opening the finger is easily passed into the bladder, and the stone felt. The staff is then withdrawn. Sometimes it is a troublesome matter to reach the bladder with the finger, in consequence of the straining and struggling of the patient, causing the organ to ascend in the pelvis; the difficulty is overcome by patiently waiting till these exertions cease. By steady and gradual movements of the finger in the wound of the prostate, the opening is much dilated, so as to admit of the ready introduction of instruments for laying hold of and removing the stone. Indeed, the neck of the bladder is capable of dilatation without any incision. In a case of perineal abscess containing a portion of exfoliated bone, on account of which incision was made, it was found that the cavity communicated with the urethra; lest other foreign matter should remain, I introduced my finger into this aperture into the membranous portion and found that by the most gentle movement I could not only easily reach the bladder, but dilate the opening in it to a very considerable extent. By the finger in the bladder, the size and position of the stone is ascertained; and no extracting instrument should be employed till after the finger is in contact with the stone. When it is of moderate size, and after having been turned, if necessary, into the most favourable position for extraction, the forceps are introduced. This instrument should be tolerably long, so as to afford power in its use; and the extremities of its blades should be covered with coarse linen, for thus it is not so likely to slip or to chip the stone as those with raised and projecting teeth. For flat stones, the forceps should be flat-mouthed; for round, more open, hollowed, and bent at the points; or for the latter description of stone, forceps with a sliding joint may be used. The object is to lay hold of the concretion by as many points as possible—to bring a large surface in contact with the instrument. Those with the sliding joint are of no service when the stone is flat, as it either cannot be caught by them at all, or merely by their points, or near the joint; they are applicable only to the round stones of considerable size, but they are very troublesome to manage. The instrument is introduced shut, along the finger, and on reaching the prostate is gently insinuated, whilst the finger is at the same time withdrawn. It is brought in contact with the stone, and carefully opened, the handles being raised. One blade is passed under the stone, the other remaining above, and then the instrument is closed, firmly but not forcibly. By the finger, again introduced, along the side of the forceps, it is ascertained whether or not the stone is held securely, and in the proper direction; if not all right, it may then be turned by using the point of the finger and slightly relaxing the grasp. Now the handles of the instrument are depressed, so as to avoid resistance from the bones in the front of the pelvis, and the extraction is commenced, in a steady and gradual manner; if difficulty is experienced, dilatation is effected, and the process facilitated, by moving the forceps gently backwards and forwards; no force or violence is required, either in pulling or dilating; all should proceed smoothly and with deliberation. The forceps must be proportioned in length to the size of the stone; a large concretion requires long forceps, both that it may be grasped securely, and that sufficient power may be afforded for the extraction."*

Mr. Liston's "Practical Surgery," embellished with 150 beautiful wood en-

* "Elements of Surgery," by Robert Liston, Surgeon to the North London Hospital, Professor of Clinical Surgery, &c., &c. Second edition, illustrated with engravings and woodcuts by Bagg.

gravings, is one of the best works of the kind which we have ever seen. It is full of practical and original matter founded on extensive experience. We think his views of lithotrity worthy of extensive circulation. After enumerating the various improvements which from time to time have been made in the instruments to crush the stone, he states that all these have now given way to the instrument which the Messrs. Weiss have brought to the utmost state of simplicity and perfection. Mr. Weiss, jun., has been steadily proceeding in improving the instrument, so as to render it more safe and efficient, he has listened to such hints as have been offered; he has, at Mr. Liston's suggestion, improved the handle, making it now of metal, and smooth, instead of being covered, as formerly, with ivory or wood made rough. The contact with the foreign body is thus rendered more distinct, and greater facility afforded in seizing the stone. At the suggestion of the late Mr. Oldham, a gentleman attached to the Bank of England, he has also adopted a most essential improvement, without weakening the instrument; the outer or anterior blade being now made open, so as to receive the other. The clogging of the instrument is thus effectually prevented, the fragments being readily forced through the fenestrum. For many years the greatest inconveniences and danger certainly resulted from the defective nature of the instruments used in this operation. Of late, however, the operation of lithotrity has been much improved and simplified in all respects; it is applicable now to a great variety of cases, and is likely, in a few years, to supersede in a great measure the operation of cutting for stone. Until very lately, patients applying to surgeons were constantly recommended to submit to the knife, in order to get rid of stone in the bladder, whatever might be the size of the concretion, or the state of the urinary organs. On the other hand, if he fell into the hands of the grinder, no matter what the peculiarities of his case, he was as certain to be subjected to the boring and hammering processes. Now that the merits of both operations are better understood and appreciated—some few surgeons having thought proper to turn their attention to the matter, and study and understand lithotrity as well as lithotomy—patients have a chance of being treated judiciously and conscientiously, and of having that proceeding resorted to which is adapted to the circumstances of their respective cases. Mr. L. was not slow to adopt the operation of crushing, having always had a favourable impression of it, and having throughout used the same language regarding it; yet he has the credit of being an opponent of lithotrity. He has all along been, and is certainly still, opposed to the abuse of any one operation, by its indiscriminate employment in all cases, and by its being practised by those alone who know no other. It can be employed safely only by those who understand well the healthy anatomy of the urethra and bladder; who are acquainted with their sympathies, vital actions, and pathological changes; and who both understand, and are in the constant habit of treating, derangements of their functions. The operation of lithotrity is applicable to patients above the age of puberty, when the symptoms have not endured very long; when the foreign body is ascertained to measure six or seven lines, or even more perhaps, say as large as a chesnut; when the bladder and urethra are in a tolerably healthy and normal condition—as indicated by the power to retain the urine comfortably for several hours, and to pass it in a tolerably free stream; and when the viscus admits of injection and a careful exploration. That the stone may be seized readily, and acted upon without danger to the lining membrane, the bladder should contain at least five or six ounces of fluid. The patient is placed upon a couch, with the pelvis raised upon a firm pillow; a catheter is introduced, and a sufficient quantity of tepid water injected by means of a syringe properly fitted to it. The catheter having been withdrawn, the screw lithotrite is introduced, the whole bent part being received within the cavity of the bladder; and it is then carried to the usual situation of the stone, by raising its handle. The one blade is slid back on the other, so as to expand them; they are then moved slightly, and the stone seized. This is done with all due caution; and it is ascertained that there is no entanglement with any fold of mucous membrane, by raising the point gently; the instrument is then brought towards the neck of the viscus, and the stone there acted upon. The pressure is applied at first

gradually, the screw being alternately turned forwards and backwards. The yielding of the foreign body is felt, and even heard; and it is disintegrated and crushed, as certainly and more safely thus than by the use of the hammer; some of the instruments are made so that this latter method of approximating the blades may be employed in addition, but that part of the proceeding must soon fall into disuse. The fragments may be taken up and operated upon, one after another, by the same instrument; if the patient has not suffered much, the screw-scoop may be substituted at the first sitting, an instrument of the same form, but with a smaller opening in the anterior blade; with this some of the broken portions may be laid hold of, crushed, and extracted. In this way—at one operation, if the stone be small—the cure may be completed without effusion of blood, and with very little more pain than is caused by the introduction of a bougie. A small quantity of blood occasionally passes with the urine and injected fluid, probably from the posterior portion of the urethra being stretched and made straight, and compressed at points owing to its curvatures being effaced. There may also be a little over-stretching of the orifice, in spite of every care in forcing the two blades in contact by the screw. The detritus does not pass readily for a few days, until the water is again evacuated in a full stream and in quantity. Diluents are given freely; and opiates may be exhibited by the mouth or lower bowel, and general or hip-baths used, if symptoms arise requiring such practice. Should any great excitement about the neck of the bladder take place, with frequency and pain in micturation, it may be necessary to abstract blood from the perinæum. In general, however, the disturbance is slight, if any; a farther examination can be made in six or eight days, and such fragments and detritus as remain, are then to be dealt with according to circumstances. A very few sittings will suffice to rid the patient of such a stone as it is advisable to attack in this manner. Mr. Key has lately recommended the addition to the lithotrite of two wings with nets attached, into which he proposes to receive the stone, and by that means to throw the broken portions again and again within the blades as they are opened, so that they may be at once more certainly and effectually triturated. The machine is very ingenious and pretty, but Mr. Liston does not approve of the proposal; a proceeding which has been gradually simplified and made of safe and easy application, would be thus again rendered complicated, precarious, and more difficult than ever in execution.

When the stone is much larger than above indicated, and when the bladder, in consequence of the endurance of the irritation, has become contracted, fasciculated, and irregular on the surface, presenting the rudiments of pouches, it will be absolutely impossible to make sure of removing all the detritus. Nuclei must be left, and very shortly the patient will have five or six stones substituted for one. The suffering and danger, moreover, endured by the patient at each sitting—when these are often repeated, in an unsound bladder, for the removal of the fragments of a large concretion—are much greater than those resulting from a speedy and well-conducted, safe operation for its removal, entire and at once. By lithotomy the excited state of the bladder is relieved by the removal of all source of irritation, by the viscus being put at rest, and its functions suspended, and by the loss of blood from the neighbouring vessels. In lithotrity, on the other hand, when the stone is large and considerable fragments are left, the irritation is greatly increased. The pain experienced in passing fragments is often extreme, and not unattended with danger; for difficulty is often experienced in dislodging portions from the urethra. The retention follows, perhaps, with inflammation of the bladder. The pieces of stone may sometimes be dislodged by the use of a scoop, with or without a second blade; and such an instrument has been made, at Mr. Liston's suggestion, by Mr. Weiss. But occasionally their size renders it impossible thus to get rid of them; and then incision of the perinæum in the mesial line must be practised, and that early, in order to save the patient. Mr. L. has been obliged to resort to this proceeding; and then he did not hesitate to carry the incision a little farther, and take the liberty of clearing the bladder by the use of the scoop and finger. Blood, too, is often lodged in the bladder, and removed with difficulty. The excited action which follows is, perhaps, at first slow and weak; but it soon becomes lighted up by the con-

tinued irritation resulting from the frequent contraction of the viscus and contact with the angular pieces of the concretion. Unless a very correct judgment is exercised in determining upon the practice in particular cases, and great gentleness observed in the manipulations, fatal results must very often follow.—Otherwise, the termination, like that in the case of a woman, undelivered, is very unsatisfactory.*

Mr. Fergusson, in his admirable work on Practical Surgery, almost invariably recommends the flap operation in amputation. Since 1679, when Lowdham first proposed this operation, there had been great controversy as to its merits, and those of the mode by circular incisions. Previous to the last twenty years, although the operation may be said to be entirely British in its origin, the circular method seems, with few exceptions, to have been universally followed by surgeons of this country. Of late, the proceeding by flaps has again been introduced, more especially among those who have been educated in Edinburgh within the above named period. The influence and example of Messrs. Liston, Lizars, and Syme, must have induced thousands to follow this plan. Sir George Ballingall also invariably performed the flap operation during the time he officiated as acting Surgeon in the Royal Infirmary, although it appears, from his valuable work on Military Surgery, that he does not assent to all the advantages that have been claimed for this mode, nor acquiesce in the abuse which has been heaped on the circular incisions. His successors followed in the same course, and, like other pupils of the school, Mr. F. has imitated the practice of his seniors, in by far the greater number of amputations which he performed in Edinburgh. He states that during a period of twelve years, the circular operation was never performed in the Edinburgh Hospital until it was again done by himself, during the latter part of his service in that institution. He says that from the statistical tables of that establishment, drawn up by his respected friend, Professor Reid, of St. Andrew's, that in two years (from July, 1839, to July, 1841), sixty-nine amputations on the extremities were performed, and it will therefore not be unreasonable to suppose, that upwards of four hundred similar operations were performed in the above twelve years. When the operations in private, during the same period, by the flap method also, are added to this number, it may readily be perceived how widely the example must have spread.—Having, with few exceptions, witnessed all those done in public, and seen and been engaged in a reasonable proportion of private cases, it could scarcely be otherwise than that Mr. Fergusson should, in his own practice, follow the flap incision; more especially when he contrasted those done by the above named gentleman and others of less note, with the occasional circular operations which, from time to time, he witnessed elsewhere, and when, in addition, he compared the stumps made by the two methods, and consequently by different practitioners.

If rapidity of execution is to be taken as the test of superiority, then the flap operation must be allowed the preference; but in the hands of a good surgeon, the difference of time required for the efficient performance of either, seems of so little consequence, that such a calculation should not be taken into account. It has been asserted in most controversies on this question, that in the circular operation, the skin alone is left to cover the end of the bone, whereas, in the flap method, there is a cushion of muscular fibres preserved, which afterwards protects that part, and lessens the chance of injury from pressure. The nature of the covering, however, depends greatly on the manner in which the operation is performed. In the circular, if the skin is freely dissected upwards before the other soft parts are divided, the end of the stump can be formed only by this texture; but if the incisions are so managed as to leave a sloping surface from the edge of the divided bone to that of the skin, and if a sufficiency of soft parts be left, the covering of the bone may thus be as thick (as muscular) as by the flap operation. In the leg, one side of the stump, when formed by the circular proceeding, must always be formed of skin only; but in the thigh, arm, and upper part of the fore-arm, it is quite possible to preserve the

* Practical Surgery, with one hundred and fifty engravings on wood. By Robert Liston. Third edition. The engravings in this splendid work are exquisite.

parts in the manner above referred to. It is worthy of remark, that the muscularity of the calf of the leg has been made an objection to the flap operation in this situation, and that pains have been taken by some of the greatest advocates for this operation—those who insist on the necessity for a thick covering—to make the incisions in such a manner as to preserve the skin only. Mr. Liston has recommended that in this situation "two semilunar flaps had better be made, one from the anterior aspect of the limb, the other from the posterior, the muscles being cut short in the ham." In very muscular subjects the large posterior flap which is usually made here, is almost certain to project considerably beyond the skin; Mr. Fergusson has noticed a similar thing with the deltoid muscle after amputation at the shoulder-joint; the occurrence retards the cure; but in the course of some additional time, perhaps a month or more, the stump differs little from one where no such protrusion has ever happened. In either of these cases, and whether the operation has been by flap or by circular wound, the stumps are at last so much alike in certain parts of the body, that it is occasionally difficult, after the lapse of years, to say whether an amputation had been by one mode or the other: at all events, when such distinction can be drawn from the shape of the cicatrices, it is evident that the end of the bone is covered by much the same thickness of soft parts, in one instance as in the other. If there had been a full fleshy stump shortly after the operation, all muscular fibre has at last disappeared, and the skin, with a substance resembling condensed cellular texture, alone covers the bone. This substance undoubtedly gives great protection to the end of the bone, and its presence is absolutely necessary to constitute what may be deemed a good and useful stump: therefore, whether the circular or flap incision is resorted to, Mr. Fergusson always endeavours to preserve more than the skin for a covering.

It is impossible to argue that non-union, suppuration, protrusion of bone, exfoliation, tumours on the ends of nerves, and so forth, have not followed the circular operation—all these evils must be admitted; but the same results have occurred from the method by flap. It is, indeed, difficult to imagine why the circular incisions should cause all the above troublesome results, whilst the flap method should avoid them: Mr. Fergusson says he shall not feel convinced on the subject until he sees that such is really the case, until he sees a certain number of amputations by the two methods, done by the same surgeon, or by two who are equally competent, and find all the evils on one side, and the advantages on the other. Some such proof as this is still wanting for the surgeons of the present day. It is not to be overlooked that some of the most distinguished in the profession have almost invariably performed the circular operation, and surely all the stumps formed by these gentlemen were not so bad as the advocates for the flap would lead us to suppose. Mr. Fergusson is perhaps correct in stating that even in the present day, more amputations are done by the circular than by the other mode; and, fifteen or twenty years back, not one surgeon in fifty ever thought of performing any other operation than the circular.

Sir George Ballingall, after nearly thirteen years' experience in military hospitals, and more than fifteen in civil institutions—who, during his period of operating in the Royal Infirmary of Edinburgh, performed the flap operation invariably, whilst Mr. Fergusson had an opportunity of observing—who may, notwithstanding, be considered less prejudiced than some other authorities, thus writes:—"The flap operation is a seductive one, and I can speak from my own experience when I say, that it is an operation which one is unwilling to relinquish after having once experienced the comparative facility of its execution." The last part of this sentence implies, in Mr. Fergusson's estimation, a most important distinction between the two proceedings, and has probably had the greatest influence in determining his own line of practice; and here, then, let it be remarked, that he speaks with reference to the performance of the respective operations, not their results.

This admirable little work is illustrated with 246 most beautiful wood engravings, by Bagg, and seems to us to take an equal rank with the larger work of

Mr. Liston, on the same subject, and in sound practical directions is inferior to no work on surgery in our language.*

We know of no single remedy which is much more useful in a variety of diseases than nitrate of silver. In affections of the eye, and especially when the conjunctiva is the seat of disease, it is of inestimable value. On the treatment of purulent ophthalmia with this substance, Mr. Walker says—"I have already stated it to be my opinion, that the antiphlogistic treatment of purulent ophthalmia is both useless and improper. I have never myself employed bleeding, either generally or locally, in any of the cases of this affection, which have come under my own care within the last thirteen years. Having, for some time previously, been in the habit of witnessing the admirable effects of stimulants in the treatment of some other varieties of conjunctivitis, it seemed to me that they might be equally serviceable in that of the disease in question; and I believe I was the first to employ the nitrate of silver in substance, in this variety of ophthalmia; at least, no published statement of any such employment of it had appeared at the time when my paper, detailing some cases in which it had been successfully used, was published in the Lancet, vol. ii., 1830–31, p. 619. The result, as regards my own mind, from my practice with this article in substance is, that I have great confidence in my ability to check by it the progress of the affection; and, at the same time, a conviction that very few, if any, cases of it will terminate unfavourably, if this treatment be resorted to before the deep-seated ulceration or sloughing has commenced.

I may observe, also, that Dr. Littell has given his testimony very strongly in favour of my mode of treating purulent ophthalmia. "It is in this form of ophthalmia (says he) that the nitrate of silver most remarkably displays its sanatory powers, and constitutes indeed our principal reliance. Applied in substance to the inner surface of the palpebræ, it diffuses its influence by continuous sympathy over the whole conjunctiva, while it also acts directly upon the opposing surface of the globe; and, in the severer grades of inflammation, is decidedly preferable to the forms of solution or ointment. The nitrate of silver in substance is now, likewise, generally preferred by the most eminent French surgeons.

I have already given some directions respecting the mode of employing the nitrate of silver in substance. But, in the variety of ophthalmia now under notice, it is requisite that it should be applied more freely than in instances of ordinary conjunctivitis. In the early stage of purulent ophthalmia, the palpebræ are sometimes so tense that it is not easy to produce sufficient eversion to allow of the nitrate being applied very extensively. In this case, we must insinuate it gently beneath the margin of each lid, and allow it to touch as much of the conjunctival surface as we can. It may also, with great propriety, be allowed to come in contact with as large a surface of the chemosed conjunctiva as possible; and, with a pretty large surface of it, it may often be brought in contact, because, as I before observed, there is frequently a considerable bulging of the membrane between the lids. In cases of this kind, we need not be under the slightest apprehension as to any unpleasant effects being likely to follow the free use of the nitrate of silver; it may be safely allowed to remain in contact with the conjunctiva for a few seconds. As the disease advances, the difficulty of applying this remedy diminishes, for the tension of the eye-lids gradually wears off, and they often become much relaxed, with a decided tendency to eversion, and are sometimes indeed considerably everted. In the early stage, while there is a chance by vigilant attention of saving the eye, the nitrate should be freely applied once in each day, until the chemosis and the puriform discharge are so much lessened as to leave no doubt that the violence and danger of the disease have passed away. On some occasions, I have repeated the application morning and evening, more particularly when ulceration of the cornea has occurred to any considerable extent. The nitrate of silver I regard as the sheet-anchor in the treatment of purulent ophthalmia. If it be properly and ef-

* A System of Practical Surgery. By William Fergusson, F.R.S.E., Professor of Surgery in King's College, London. Surgeon to King's College Hospital, &c.. &c. With 246 illustrations, by Bagg.

sciently used, but little else can be necessary; without it, I should entertain but little expectation of a successful issue of any case at all severe in character." This is one of the neatest and most practical little works on diseases of the eye which we have ever seen. We have perused a great portion of it with attention, and hope it may be a text-book for all general practitioners. It is a truly good book, and will not mislead any one.*

One of the most interesting works which we have lately read, is that "On Food and Diet," by Dr. Pereira. It contains an epitome of the views of Liebig, Prout, &c., on this subject, and embodies much of the "organic chemistry" of the former writer. Dr. Pereira brings forward all the opinions recently advanced with respect to the uses of nitrogenized and non-nitrogenized food in the animal economy, which may be briefly stated as follows:—1. Nitrogenized foods are alone capable of conversion into blood, and of forming organized tissues. 2. Nitrogenized foods which contain proteine, as albumen, fibrine, caseine, and gluten, alone form the albuminous and fibrinous tissues. 3. Gelatine is incapable of conversion into blood; but it may, perhaps, serve for the nutrition of the gelatinous tissues (cellular tissue, membrane, and cartilage). 4. Non-nitrogenized foods support the process of respiration by yielding carbon, and, in some cases, hydrogen, to be burnt in the lungs, and thereby to keep up the animal temperature. 5. Some of the non-nitrogenized foods contribute to the formation of fat, the carbon and hydrogen of which are ultimately burnt in the lungs, and thereby develope heat. 6. With the exception of the substance of cellular tissue of membranes, and of the brain and nerves, all the organic materials of which the animal body is composed are derived from vegetables, which alone possess the property of producing compounds of proteine.

Dr. Pereira then states the following circumstances which appear to raise some difficulties or objection to the unqualified admission of the opinions above referred to. 1. When benzoic acid, a non-nitrogenous substance, is taken into the stomach, it appears in the urine in the form of hippuric acid. For this fact we are indebted to Dr. Alexander Ure. This hippuric acid is probably formed by the elements of the benzoic acid, with the addition of those of lactate of urea. It cannot, therefore, be doubted, "that a non-azotized substance, taken in the food, can take a share, by means of its elements, in the act of transformation of the animal tissues, and in the formation of a secretion." Consequently the possibility of the conversion of non-nitrogenized constituents of the animal body does not appear by any means improbable. 2. Liebig's explanation of the uses of nitrogenized and non-nitrogenized foods does not account for the fact stated by the Commissioners of the French Academy, that while fibrine, albumen, and gelatine, taken together or separately, are incapable of supporting animal life, gluten from wheat or maize is alone sufficient to satisfy complete and prolonged nutrition. As fibrine, albumen, and gluten, are said to be identical in composition, their nutritive powers ought to be equal. 3. According to Liebig and Dumas, sugar is an element of respiration. Now as it can only reach the lungs by means of the blood, traces of it ought to be found in this fluid; yet it does not appear that sugar is a constituent of healthy blood. At least it has not hitherto been found in it, though a one-ten-thousandth part of the sugar added to blood can be readily detected. This circumstance, therefore, seems rather to show that sugar undergoes some complete change in its nature previous to its passage in the blood. Several facts favour this opinion. In the first place—of the foods (viz. yolk of eggs, and milk), supplied by nature for the early stages of animal existence, sugar is found only in that food (milk) which undergoes digestion before its application to the purposes of the economy. Secondly, in diabetes, the digestive powers are greatly impaired, and saccharine assimilation is suspended. Sugar is then detected in the blood. Now it cannot be said that its presence is owing to any defect in the respiratory process, since fatty matter appears to suffer the ordinary changes in the pulmonary organs. 4. Ac-

* The Oculist's Vade-Mecum: a complete Practical System of Ophthalmic Surgery—with numerous Wood Cuts and Coloured Engravings of the Diseases and Operations of the Eye. By John Walker, Surgeon to the Manchester Eye Hospital, formerly Lecturer on the Eye in the Manchester Royal School of Anatomy and Medicine, &c. 1843.

cording to Dr. Prout, the contents of the stomachs of animals fed on vegetable substances, even when fully digested, and about to pass the pylorus, exhibit no traces of an albuminous principle; while the chymous mass of animals fed on animal food contains albumen. It would appear, therefore, that albumen is formed subsequently to the passage of the chyme into the duodenum. Now this is in complete contradiction to Liebig's statement, that albumen pre-exists in the vegetable food of the herbivora, and is not formed in the animal economy. Dr. Prout's statement harmonizes well with another fact well known to physiologists, namely, the non-existence of fibrine in the contents of the duodenum, though, according to Liebig, this principle also pre-exists in the food of animals, and is not formed by them. It has even been said that the chyle contains no fibrine until after its passage through the mesenteric glands. 5. If the nitrogenized substances requisite for the nutrition of the animal body exist ready formed in plants, the necessity of more complex organs of digestion for the herbivora than for the carnivora is not very obvious. Liebig thinks that it "is rather owing to the difficulty of rendering soluble and available for the vital processes certain non-azotized compounds (gum? amylaceous fibre?) than to anything in the change or transformation of vegetable fibrine, albumen, and caseine, into blood; since, for this latter purpose, the less complex digestive apparatus of the carnivora is amply sufficient." But this suggestion is not a very satisfactory one. Gummy and amylaceous substances are eaten, and, apparently digested, by some animals which are essentially carnivorous in the structure of their alimentary canal. Moreover, as the leading distinction in the food of the herbivora and carnivora consists in the use, by the former, of substances containing vegetable fibrine, albumen, and caseine, while the latter employ animal fibrine, albumen, and caseine—it appears more natural to connect the peculiarity in the structure of the digestive organs with the nitrogenized, than with the non-nitrogenized food. 6. No plausible explanation has hitherto been offered by Liebig or others, of the necessity for the variation of diet, and for the use of succulent vegetables or fruits which experience has shown to be necessary for the preservation of human health and life. Liebig has shown that food must contain both a plastic element of nutrition and an element of respiration; but it is well known that a diet (as of salt meat and biscuits), which fulfils both of these conditions, is not always sufficient to preserve health and life.

It cannot be a matter of doubt that non-nitrogenized substances are intended by nature to constitute part of the food of man and other animals, but especially of the herbivora, since we find them in the aliments supplied by nature for animals during the first period of their existence. Thus, in the yolk of egg (the food of the embryo chick) we find fixed oil—and in milk we have sugar and butter, both non-nitrogenous principles. If to these proofs we further add the fondness of animals for non-nitrogenized substances, the craving, nay almost insatiable desire, for them, manifested by individuals who are deprived of them, and the fact before mentioned, that nitrogenized food alone cannot support life, not a doubt can remain in our minds that these principles are essential to health and life.

In commencing our inquiry, then, into the particular purpose they serve in the animal economy, Dr. Pereira observes in the first place, that with the exception of fat, none of them are constituents of the animal system: nor in a state of health are they found in the blood or the excretions. It is obvious, therefore, that they must suffer some change or transformation in the organism. Now they all consist of carbon, hydrogen, and oxygen. In starch, sugar, and gum, the hydrogen and oxygen are exactly in the ratio to form water. Do they, therefore, contribute carbon, and in some cases, hydrogen also, to assist in the formation of blood? Liebig asserts they do not, for he observes that as the nitrogenized principles used as food contain exactly the "amount of carbon [and hydrogen] which is required for the production of fibrine and albumen," it follows that the carbon of gum, sugar, and starch, and the carbon, and hydrogen of butter and other fats, cannot be employed in the production of blood.' If the nitrogenized principles contained less carbon than albumen and fibrine, then starch, sugar, gum, and fat, might give up some

carbon to compensate the difference. He, therefore, concludes that these bodies yield their carbon, and, when their hydrogen is in excess to their oxygen, part of their hydrogen also, to form, with atmospheric oxygen, carbonic acid and water, and, therefore, to develope heat. They serve to protect the organism from the action of the oxygen, which, in the absence of food, consumes the tissues. "If," says Liebig, "we observe a man or other animal in sickness, or at any time when the body is not supplied with nourishment to compensate for the continual loss, we find him to become lean: the fat is the first to disappear, it vanishes through the skin and lungs in the form of carbonic acid and water, as none of it can be found in the fæces or urine: it resists the action of the atmosphere on the body, and is a protection to the organs. But the action of the atmosphere does not end with the loss of fat: every soluble substance of the body enters into combination with the oxygen of the air. The influence of the oxygen of the atmosphere is the cause of death in most chronic diseases: from want of carbon to resist its action, that of the nerves and brain is used. In a normal state of health and nutrition, the carbon of the carbonic acid must have another source." Thus, then, it would appear that nitrogenized aliments alone are assimilated: the non-nitrogenous ones are burnt in the lungs.

But it may be asked, why, if both sugar and fat serve merely for combustion in the lungs, are both of these principles contained in the milk, since theoretically, one of them would appear to be sufficient? Moreover, if sugar be burnt in the lungs, is it not remarkable that it has not, in the healthy system, been detected while in its passage from the digestive organs to the lungs? Surely some traces of it ought to be recognizable in the blood? Hitherto, however, none have been found. Does not this fact seem to show that it undergoes some transmutation during digestion, different to that which fatty substance suffers? The yolk of the egg serves directly for the nourishment of the embryo chick, but it contains one non-nitrogenized organic principle (oil) only. But milk, which also serves for animal food, contains two (butter and sugar). Now milk requires to be digested before it can be assimilated; whereas yolk of egg does not—in fact, it serves for food before the digestive organs are developed. This fact, therefore, favours the notion that sugar is in some way connected with the digestive process.—(A Treatise on Food and Diet: with observations on the Dietetical Regimen suited for Disordered States of the Digestive Organs; and an Account of the Dietaries of some of the Principal Metropolitan and other Establishments for Paupers, Lunatics, Criminals, Children, the Sick, &c. By Jonathan Pereira, M.D., F.R.S., and L.S., Licentiate of the Royal College of Physicians in London; Member of the Royal College of Surgeons; Fellow of the Royal Medical and Chirurgical Society; Corresponding Member of the Society of Pharmacy of Paris; Honourary Member of the Pharmaceutical Society of Great Britain; Examiner in Materia Medica and Pharmacy to the University of London; and Assistant Physician to, and Lecturer on Materia Medica at the London Hospital. 1843.)

We intended to have referred to Dr. Davidson's work on the same subject, but we find that our space forbids us. We may say, however, that we have perused a great part of his work, and think it in every way worthy of its respectable author. It is entitled "A Treatise on Diet, comprising the Natural History, Properties, Composition, Adulterations and Uses of the Vegetables, Animals, Fishes, &c., Used as Food. By William Davidson, M.D., M.R.C.S.E., Member of the Faculty of Physicians and Surgeons of Glasgow; and lately Senior Physician to the Glasgow Royal Infirmary, and Lecturer on Materia Medica and Dietetics. 1843."

Mr. Erasmus Wilson has given us a new classification of the diseases of the skin. This classification is founded on the anatomy of this part; hence Mr. Wilson assumes for it the title of the "natural classification." It certainly offers advantages for the study and recollection of the pathology of cutaneous affections, and is additionally inviting from not interfering with the old established terms of cutaneous medicine used and employed since the time of Willan. This is certainly a great recommendation to a work of this kind, as medical men who have at some trouble, and after much practice, made themselves masters of the

diseases as described by Willan, &c., would not be disposed to recommence the study of a complicated subject on a new system, when they found themselves sufficiently successful in practice by attending to an old one. Mr. Wilson objects to the pseudo-scientific divisions of these diseases invented by Willan, and remarks that pathological appearances do not admit of a gradation of subdivision, such as is expressed in the terms class, order, genus, and species. "The most that can be admitted is a class of cutaneous diseases, these divisible into orders or groups, but the groups separate at once, to the exclusion of genera, into individual diseases or species, and varieties of those diseases. The differences between any two varieties are never so strongly marked as to admit of consideration as species in the proper sense of employing that term."

We might give some most interesting details on the treatment of the different diseases of the skin from this very complete work of Mr. Wilson, but we have only room for the following, on the subject of *impetigo capitis*.

The different kinds of impetigo are caused by suppurative inflammation of the dermis, which give rise to pustules. There is a wide distinction, says Mr. Wilson, between a vesicle and a pustule, when these two pathological forms present their typical characters; but it not unfrequently happens, that in consequence of a reparative action set up in the vesicle, pus is produced upon its dermic base, and mingling with the serum, constitutes a sero-purulent, and, subsequently, a purulent or pustular vesicle. In such a case it is necessary to remember that a true pustule contains pus from the first moment of its formation, and by this circumstance is essentially distinguished from a vesicle.

It is requisite, at the onset of our study of cutaneous diseases, to be most precise in our definitions, and to draw as broad a line as possible between the various pathological forms which we are desirous of characterizing. Scarcely any word has been used more loosely than the term pustule in medical nomenclature. At one time it was employed to signify a papula, at another a vesicle, and it was not until the time of the Linnæus of cutaneous pathology, that the proper application of the term was truly made. Willan employed it, with the characters above stated, as the type of his fifth order—*pustulæ*; and in this sense it has been subsequently adopted by successive dermatologists. The diseases which Mr. Wilson considers under the definition above given, are two in number—namely, Impetigo, Ecthyma. The order pustulæ of Willan embraces five diseases, two of which, had he lived at the present time, would have been excluded by himself—namely, porrigo, and scabies. The genus porrigo of Willan contains diseases of the most opposite kind, and has been the source of much confusion, so much, indeed, that it would be well that the term should, for the future, become obsolete and forgotten. What relates to true porrigo will be found in this classification under the designation *favus*. Scabies, again, is a disease possessing several elementary forms, of which both vesicles and pustules are accidental, and only occasionally present; the pustules, when they exist, belonging to ecthyma. Variola, as placed by Willan in the order pustulæ, is forcibly torn from all its natural affinities, and for this reason Mr. Wilson transfers the genus to the group of eruptive fevers. Rayer admits no less than ten genera of pustular inflammations, for four of which he is indebted to variola—namely, variola, varicella, vaccinia, and vaccinella. There could have been no objection to thus establishing a distinct group of variolous affections; indeed, some benefit might have flowed from such an arrangement, but the possible advantages are immediately destroyed by the companionship with which he has leagued them. Thus, from the highly inflammatory and contagious fever of variola, we pass on immediately to three diseases of the sebaceous glands—namely, rosacea, acne, and sycosis; next in order follows impetigo, then favus, a peculiar disease of the hair follicles, and lastly, ecthyma.

Impetigo Capitis.—That affection of the face and head of young children termed milk-crust, or crusta lactea, and by Willan, porrigo larvalis, is an impetigo figurata, identical with the typical form of this disease, or if it be in any kind different, modified merely by the age of the patient, or by its more or less extensive occupation of the scalp and face. Crusta lactea presents several varieties in relation to a degree of inflammation and thickness of crust; it may ex

lst upon all parts of the head and face at the same time, or be located separately upon the face, the scalp, the ears, the temples, the alæ nasi, or the lips.

The pustules of crusta lactea, from exposure to the influence of the air, are somewhat whiter than those of impetigo developed on more protected parts of the body. They are accompanied by much itching, and are frequently broken by the action of the nails; the escape of pus and of the viscous sero-purulent fluid which succeeds giving rise to the characteristic greenish-yellow crusts of impetigo; and when, as frequently happens, the blood flows from the wounds caused by the nails, those parts of the crusts stained by the sanguinolent fluid assume a deep brown colour. When the wounds inflicted by the nails are deep, cicatrices are apt to remain after the subsidence of the disease, but, under ordinary circumstances, the skin is left perfectly free from any trace of morbid action. On the fall of the crust, the skin is red and congested, and covered by a thin and glossy epidermis; by degrees, the natural hue of the integument is restored, and the epidermis, after repeated exfoliations, regains its normal appearance.

Treatment.—In impetigo, unaccompanied by severe or extensive inflammation, emollient and sedative fomentations, the vapour-bath and water-dressing are the proper applications. If the inflammatory action be greater, a few leeches may be applied with benefit, and if the inflammation be extensive as well as severe, general bleeding may be employed. If the above simple treatment fail in restoring the skin to its healthful condition, alkaline, or sulphuro-alkaline or astringent lotions may be used, or any one of the following ointments—namely, oxyde of zinc, calamine, acetate of lead, fuligokali, white precipitate, or dilute nitrate of mercury. Hydrocyanic acid, in the formula recommended by Dr. Thomson, is also a valuable remedy:—

℞. Hydrocyanic acid, ʒiv.; acetate of lead, gr. xv.; alcohol, ʒiv.; water, ʒvij. M.

In the chronic form of impetigo, the vapour douche and bath will be found invaluable remedies; they soften and remove the crusts without exciting pain, and calm the irritation of the skin. After the entire separation of the crusts, the inflamed surface should be bathed with a weak alkaline or astringent lotion, and enveloped in oilskin, the vapour douche being repeated once or twice daily. Should the disease resist these measures, recourse may then be had, in turn, to lotions containing sulphuret of potash, nitric acid, and nitrate of silver. The ointment of the nitrate of mercury may in some cases be found useful. Creosote ointment, and zinc ointment, may be employed successfully after the local action has been reduced, and the system regulated. In very obstinate cases, arsenic, both as a general and local measure, has been recommended.

The constitutional treatment should consist in the restoration of any of the organic functions that may be disturbed. For this purpose, laxative medicines, antacids, emmenagogues, and tonics, may, according to the indications of the case, be employed.

In the treatment of crusta lactea, warm bathing and the vapour bath, with weak alkaline fomentations, are the chief remedies. The other applications above recommended may also be used in a diluted form; and in strong and robust children it is often desirable to diminish the congestion of the skin by means of one or two leeches. The internal exhibition of laxative remedies, such as mercury with chalk, and rhubarb, or rhubarb and magnesia, will also be found useful, and, in most instances, when the infant is sucking, it will be proper to change the nurse, or wean the child. Rayer judiciously recommends, that where this disease depends obviously on dentition, and where the constitutional symptoms accompanying that state are relieved by its presence, we should be cautious in repressing the disorder, and confine our treatment to simple cleanliness. In impetigo of the scalp, the hair should be cropped over the diseased parts, and the crusts completely removed by means of the vapour douche and water-dressing. The parts should be kept free from the irritation of fresh incrustations by frequent washing, and the same remedial means pursued as above recommended for impetigo in other parts of the body. An incident which recently fell under my notice, says Mr. Wilson, speaks volumes

with regard to the treatment of this disease. I had often occasion to observe with regret, the utter uselessness of all medicinal applications in the treatment of these cases in the St. Pancras Infirmary, where numerous children are annually affected, and several are constantly in the sick wards. This want of success originated in the absence of proper nurses to carry out the directions of the surgeon. It was in vain that the necessity of cleanliness was urged upon them; they received little for their labours, and were not disposed to engage in a most disagreeable duty on philanthropic grounds alone. Under such circumstances, the pharmacopœia was exhausted of its specifics, but no advantages resulted. Things were in this state, and I had little hope of change, when to my surprise and delight, I perceived the number of patients suddenly diminish, and those who remained looked cheerful and better in health. I inquired into the cause of this change, when I learned that a new nurse had been appointed to the charge of the children, and that she had set her shoulder vigorously to the wheel of these obstinate eruptions, and had turned out several cures. Upon asking her how she proceeded, she of course looked mysterious, but I quieted her fears of my perquisitions, by telling her that it was not her secret that I sought, that my object was simply to approve of her proceeding, and to urge her to its continuance. She said in reply, that her treatment consisted in the application of a remedy derived from a "subscription" given to her mother by Sir Astley Cooper, that this legendary specific was a coarse admixture of "butter and pepper." For sound philosophy, this remedy, in its modus operandi, is worthy of the celebrated name with which the female Asclepiad had associated it, and I applauded its effects; it was an apt illustration of the sympathetic treatment of wounds by anointing the weapon with salves, and swathing it in countless bandages. But I reserved for myself that which my female co-labourer could not have comprehended—the perception of the benefit derivable from the thorough ablutions and rigid cleanliness with which the specific was accompanied."*

Dr. Wilson thinks that the medicines of most approved use in chorea are not of the class supposed especially to affect the "nervous system." Like the causes which induce the symptoms, they seem to operate for its relief, through the common material and general agencies of the animal nutrition. Acting as purges, they lessen irritation; and being alterative, are antispasmodic. Purging in chorea is good practice, but resting, as it does, with many, on a false and exclusive principle of "nervous irritation," Dr. Wilson thinks that it is often carried to a mischievous extreme. The waste following from excessive use of aperient medicines is, indeed, one occasional cause of chorea, and has often prevented its cure. Under all methods of treatment, the healthy nutrition of the frame, let it be remembered, is the end proposed. The bowels are set free, that the system may be better fed. In most cases of the disease, we cannot do better at first than purge briskly and frequently. Under this simple plan, with a regulated supply of wholesome food, the symptoms, though severe, will often entirely subside. Not long back a child in St. George's Hospital, suffering severely from chorea, was kept for many days longer than Dr. Wilson had intended on the "broth diet" ordered on his first admission. Under purging and the mineral tonics, the symptoms were continually aggravated, until the mistake in the diet card was remedied by the substitution of the ordinary diet of meat and vegetables for broth and pudding; when the little patient began, at once and rapidly, to recover. Impressed with the belief that chorea, in its acute, unmixed form, is a fever, tending, through its own symptoms, to its own cure, Dr. Wilson relies much on the use of certain specific remedies in the treatment of this disease. The power of arsenic in the control of chorea is established in his mind, by the record of many cases in many years, as one of the strongest and strangest truths

* A Practical and Theoretical Treatise on the Diagnosis, Pathology, and Treatment of Diseases of the Skin; arranged according to a Natural System of Classification, and preceded by an Outline of the Anatomy and Physiology of the Skin. By Erasmus Wilson, Consulting Surgeon to the St. Pancras Infirmary; Lecturer on Anatomy and Physiology in the Middlesex Hospital School of Medicine; Honourary Associate of the Veterinary Medical Association; Fellow of the Royal Medical and Chirurgical Society.

of practical medicine. That Fowler's Mineral Solution has often lessened the severity, and shortened the duration of this disorder, there can be no doubt. And this, we should remember, is effected by a dose that is infinitesimal. Let no physician, says Dr. W., refuse this phrase. Though perverted, it implies the principle of the vaccine virus, with that of small pox-fever—of marsh miasma, as of plague by contagion. Of elements electro-chemical in their relation, by air or food, with the blood, who may presume to declare how much or how little is essentially necessary for the production of disease, or of the actions which are its cure? In the mass of the blood, by function as in composition, a slight re-agency may suffice for the greatest ulterior change.

It would be difficult to conjecture, by what inference of prescription the most deadly of mineral poisons was first administered in this disease of impaired animal nutrition. That the little, squalid, emaciated subjects of chorea, should recover from the exhaustion of its spasm, and literally fatten, on arsenic and jalap, is a truth far beyond the apprehension of medical science, and inconceivable, excepting as a fact established by repeated observation. Here, as generally in the cure of disease, chance, we may suppose, has afforded a principle, which analogy has extended, and experience maintained.

Chorea is, for the most part, successfully treated by the mineral tonics; but every case of the disease is not always capable of improvement by these adventitious principles. Its symptoms are, sometimes, those of congestion in the brain and other vital organs; requiring measures of more direct and immediate relief than can be afforded by alterative doses of iron or of arsenic. Venesection would be most difficult, if not impossible, in the violent paroxysms of chorea; but there is, occasionally, a strong indication for the use of leeches to the chest and temples. Opium, if given with proper reserve, is at times of the greatest service, in gaining for the patient an interval from spasm, which might otherwise prove fatal by exhaustion. (On Spasm, Langnor, Palsy, and other Disorders, termed Nervous, of the Muscular System. By James Arthur Wilson, M.D., Fellow of the College of Physicians, and Physician to St. George's Hospital. 1843.)

The surgery of vaccination, simple as it may appear, has been a fruitful theme of controversy. Differences of opinion have existed with respect to the selection of lymph, the mode of making the incisions, and the number of incisions necessary to insure a full effect. Each of these points merits attention.

Dr. Gregory observes, that one of the earliest and most important disputes which chequered the career of vaccination (inasmuch as it led to the secession of Jenner, in 1807, from the original Jennerian Institution) had reference to the mode of taking the lymph. Dr. Walker adopted the plan of detaching the epidermis from the vesicle, and vaccination with the lymph (or fluid) which exuded from the abraded floor of the vesicle. Jenner objected strongly to this, and employed only the superficial lymph. Dr. Walker persevered in his plan; and it is but fair to confess that his vaccinations have stood the test of time fully as well as those conducted according to the Jennerian method.

The proper time at which lymph may be taken so as to obtain it in the most efficient state for propagating the disease, has also been a subject of discussion. Some have objected to the employment of very early lymph, others have scruples in taking lymph after the first appearance of areola, and all parties have concurred in condemning the use of lymph taken on or after the tenth day. The facts bearing on this question are as follows: The younger the lymph is, the greater is its intensity. The lymph of a fifth-day vesicle, when it can be obtained, never fails. It is, however, equally powerful up to the eighth day, at which time also it is most abundant. After the formation of areola, the true specific matter of cow-pox becomes mixed with variable proportions of serum, the result of common inflammation, and diluted lymph is always less efficacious than the concentrated virus. After the tenth day the lymph becomes mucilaginous, and scarcely fluid, in which state it is not at all to be depended on. Out of a dozen incisions made with such viscid lymph, not more than one will prove effective. The scabs of cow-pox, ground to powder, and moistened with lukewarm water to the consistence of mucilage, will sometimes reproduce the disease in all its

purity, a satisfactory proof that the alteration which the lymph undergoes in its progress to maturity is not of a specific kind, liable to influence the result of the subsequent vaccination, but simply dilution. Experiments with diluted lymph were formerly made by Dr. Adams, at the Small-Pox Hospital, and have since been repeated in France by M. Bousquet, and it is ascertained that effective vaccination may be thus produced.

Cow-pox matter differs in intensity according to the source from which it has been obtained. Very pure lymph, of great intensity, will often prove efficacious when taken from the arm on the ninth and even on the tenth days. Experience teaches that all vesicles are not equally fitted to produce the disease in purity; but it requires a practised eye to detect these minutiæ. Irritable sores are often produced by draining the vesicle too much. Infantile lymph is more to be depended upon than the lymph obtained from adults. The matter of primary vaccinations is more energetic than that of secondary vaccinations. These statements may serve as a guide in the selection of lymph wherewith to vaccinate. The number of incisions which it is requisite to make in order to produce a full constitutional effect, has been always a disputed point. At an early period of vaccination one vesicle was held to be sufficient. Then three, four, or six, were recommended. In Germany, great importance is attached to the raising of numerous vesicles, it being a received doctrine in that country that, unless some decided constitutional effect be produced, little reliance can be placed on the process as a security in after-life. Common sense dictates that the greater the number of vesicles, the greater will be the local inflammation, and on this theory the greater the probability of constitutional sympathy. Some of the German inoculators have been in the habit of raising from twenty to thirty vesicles in each subject. In forming a just judgment on this matter, the nature and quality of the lymph must always be taken into account. Lymph recently derived from the cow possesses so much intensity, and fixes itself with so much more of a poisonous character upon the skin of the arm than lymph long humanized or habituated to the human constitution, that a single incision made with it is equivalent to six or eight made with lymph of minor energy.

Dr. Gregory recommends that with lymph of ordinary intensity five vesicles should be raised, and that these should be at such distances from each other as not to become confluent in their advance to maturation. Vaccine lymph should always be used in a fluid state, and direct from the arm, wherever practicable, for it is a very delicate secretion, and very slight changes in it are capable of materially altering its qualities. Lymph which has been retained fluid for four or five days, is very apt to occasion that irritable vesicle described as the most frequent of all the anomalous appearances. Dr. Gulliver has lately been occupied in attempts to discover, by means of the microscope, what is the exact change which vaccine lymph undergoes by keeping, and which gives to it this noxious quality. His observations have not hitherto yielded any decisive results, but enough has appeared to warrant further and more extensive inquiries.

When lymph fresh from the arm cannot be obtained, other means must be had recourse to. Vaccine virus may be preserved fluid and effective for two or three days in small bottles, with projecting ground stoppers, fitted to retain the matter. It may be preserved for a like time in small capillary tubes having a central bulb. This is the mode usually adopted in France for the transmission of vaccine lymph to the Provinces, and which proves very effectual; but if we attempt in this manner to transmit lymph to the East or West Indies, we fail utterly. Most surgeons have seen what are called ivory points. These, when well armed and carefully dried, are very effective. They will retain their activity in this climate for many months, and they are found to be the most certain mode of sending lymph to our colonies. Some practitioners prefer glasses to points, but they are less certain. The employment of scabs for the propagation of cow-pox was first recommended by Mr. Bryce, of Edinburgh, in 1802. It is a very excellent mode of transmitting vaccine matter to distant countries, but some nicety is required in operating with scabs, which experience alone can teach.—("Lectures on the Eruptive Fevers," delivered at St. Thomas's Hospital, January 1843. By George Gregory, M.D., Fellow of the Royal Col-

lege of Physicians of London, Physician of the Small Pox and Vaccination Hospital, at St. Pancras, &c., &c.)

Simple *nebula* of the cornea may be easily removed by a solution of nitrate of silver, or, in more severe cases, by the following drops:—

℞. Hydrarg. Bi-chloride gr. ij. Aquæ Dist. ℥i.

It is a curious fact, that after the application of any of the usual stimulants employed for this purpose, in a few weeks they appear to lose their effect, the eye, as it were, becoming invincible to them. It is, therefore, better to use the nitrate of silver drops for a few days; then a solution of the bi-chloride of mercury, then the vinum opii, which plan secures the unimpaired virtues of each. The effects produced by these various stimulants are different in almost every case, and it will be for the surgeon to regulate the precise strength capable of being employed without causing inflammation. The worst form of opacity we are called upon to treat, is *leucoma*, and Dr. Hall, of Retford, admits that when this arises from extensive ulceration, which has altogether changed the nature of the corneal substance; or when extensive opacity is the result of some powerful escharotic, which, although it may not destroy the vitality of the part, appears to have produced some chemical change in its structure, it is useless to attempt the cure of such an affection. Still, although this opacity cannot be destroyed by any means at our command, or removed by a surgical operation, this admission only applies to the central portion of leucoma. In time its edges, on examination, will be found less opaque, and a halo of hope surrounds this dimness of vision; and although the more dense central portion does not admit of cure, something may be effected with the surrounding edges. Dr. Hall has seen cases where a steady continuance in the application of remedies has produced very great benefit, and the results are doubtless sufficiently favourable to justify their employment in all such unfortunate cases. He advises most strongly the nitrate of silver ointment, of a strength regulated to the peculiar condition of the affected eye, and also the continued use of counter-irritation, behind the ears or at the nape of the neck. He also thinks that the regular application of this ointment ought to be combined with the internal use of mercury, and a slight degree of ptyalism kept up for a considerable period.

℞. Pulv. Argenti Nitratis gr. x. Liq. Plumb. Diacetatis *m*xx. Adipis ℥j. ft. ungt.

This ointment should be used every night or every second night; it always creates more or less ophthalmia, and its application must be regulated accordingly.

The preparation of mercury most useful in these cases is the hydrargyrum bi-chloridum. He has given it for six or eight weeks in the following form without severe affection of the gums, irritation of the bowels, or any symptom which made it necessary to intermit or reduce the doses.

℞. Liquoris Hydrarg. Bi-chloridi ℥iss. Tr. Cinchonæ ℥ij. Aquæ Dist. ℥viiss. M. ft. haustus ter in die sumendus.

He adds, that in some cases where neither the drops of the nitrate of silver, nor the ointment of this substance can be borne, the ointment of the iodide of potassium may be substituted; but although useful in some cases, it is not nearly so efficacious as the preparations already mentioned. (Clinical Remarks on certain Diseases of the Eye, and on Miscellaneous Subjects, Medical and Surgical, including Gout, Rheumatism, Fistula, Cancer, Hernia, Indigestion, &c. By John Charles Hall, M. D., of East Retford, Fellow of the Linnæan Society, Fellow of the Royal Medico-Botanical Society, Author of "Interesting Facts connected with the Animal Kingdom, and the Unity of our Species," and Member of the Royal College of Surgeons, London, &c.)

One of the best works on Syphilis is that by Mr. Carmichael, of Dublin. We have lately perused a great portion of the work, and strongly recommend our readers to possess it. Mr. C. classifies venereal complaints according to the character of the eruption, which affords a more certain basis for the classification than primary ulcers. He divides the different forms of the disease into the *papular*, *pustular*, *phagedenic*, and *scaly*; each of which forms he minutely describes. There is no disease which, in our opinion, requires greater discrimi-

nation in the use of a remedy than the different forms of the venereal disease. It has been customary to exhibit mercury for all its varieties, without any discrimination. On this subject Mr. Carmichael is very explicit. If cases of the simple primary ulcer of the papular venereal disease do not yield to rest, the antiphlogistic treatment, and astringent washes, after the third or fourth week, he usually gives mercury in alterative doses, in the same manner and with the same views as he would exhibit it for an indolent ulcer which is not venereal; but this is seldom or never necessary. When the papular and pustular eruptions become scaly, and obviously on the decline, in general not sooner than the fourth or fifth week, if not yielding satisfactorily to sarsaparilla, antimonials, or hydriodate of potash, he exhibits mercury in alterative doses, combined with sarsaparilla. Whenever iritis occurs, he gives mercury so as to excite its full effects upon the system. When nodes arise, which usually commence with inflammation of the periosteum, if iodine fails, he also gives mercury so as to produce tenderness and slight ulceration of the gums, but prefers the iodide to any other preparation; and, in the two last instances, it is exhibited on the principle, that there is no process so powerful in checking periostitis or inflammation of any membranous part, as mercurialization of the system.

In the phagedenic form of venereal disease, he has almost always found, sooner or later, the exhibition of mercury prove to be injurious. For primary ulcers, invariably so, and the same may be observed while the eruption continues to present the form of rupia, or tubercles. But after the disease has existed for months or years, when each succeeding crop of eruption has a tendency to change its character into that of scaly tubercles, alterative doses of mercury may, *perhaps*, be of use; yet of this he is very doubtful, for he has seen, even in this exhausted state of the disease, more relapses than perfect cures by mercury, exhibited either in full or alterative doses, under the most guarded or judicious mode of administering that medicine. In such cases he places much more reliance upon the administration of hydriodate of potash, in conjunction with sarsaparilla. When the presence of nodes indicates the utility of mercury, he restrains himself from its exhibition, should rupia also be present, from experience of its injurious effects on the general disease, under this form of eruption: and even when extensive ulceration of the fauces, engaging the velum, tonsils, and entire pharynx, seems to threaten the life of the patient, he would try every method likely to succeed, before he would have recourse even to mercurial fumigations, for fear of mercurializing the *entire system*, although well aware of the benefit often arising from their use as a *local remedy*. He has found mercury, in every stage of the phagedenic venereal disease, to be a most deceitful and destructive drug; for, although symptoms may amend for a brief period under its use, and flatter both patient and practitioner that a speedy cure is at hand, yet, almost to a certainty, new symptoms will arise to disappoint those sanguine expectations. If mercury is at all admissible for this form of venereal disease, it is when the malady is obviously on the decline, and when the eruption has assumed the appearance of scaly tubercles or blotches. This observation equally applies to the pustular form of venereal disease.

For the true Hunterian chancre, with hardened edge and base, and for the scaly eruption, either lepra or psoriasis which attends it, as well as the deep excavated ulcer of the tonsils, nodes, and other symptoms belonging to this form of disease, mercury may be esteemed a certain and expeditious remedy; and the reason of the necessity of exhibiting the mercury seems to be, that both in its primary and secondary symptoms there is but little or no accompanying inflammation or fever as in the other forms of those maladies. Hence, perhaps, the utility of raising artificially a fever in the system, to overcome the morbid effects of the poison. Mr. C. has no doubt, however, but that even this form of venereal may yield to other remedies, or even to the unassisted powers of the constitution. But from the few instances he has seen treated on the antiphlogistic plan without mercury, so long a period elapsed before recovery took place, that it is not likely this remedy will ever be generally omitted in its treatment.

From this statement of his views, we perceive that it is only in cases of the true Hunterian chancre, with hardened edge and base, that he prescribes mer-

cary with the intention of preventing the accession of secondary symptoms; but, in consequence of the unfrequency of this primary ulcer, it is therefore seldom required. ("Chemical Lectures on Venereal Diseases," by Richard Carmichael, M.R.I.A., President of the Medical Association of Ireland; Corresponding Member of the Royal Academy of Medicine of France, &c., and Consulting Surgeon of the Richmond, Hardwicke, and Whitworth Hospitals. Illustrated by coloured engravings of the different forms of eruption. Reported by Samuel Gordon, A.M.

In examining cases of hydrocele, in which the parietes of the sac are usually thick, or in which the fluid is dark-coloured, Mr. Curling states that he has sometimes derived much assistance from using a wooden tube about three-fourths of an inch in diameter, open at both extremities, one end being placed against the swelling opposite the light, the surgeon on looking through the other can observe the transparency with great advantage. Mr. Curling notices a fact not generally known, viz., that a hydrocele sometimes varies in size, being larger and more tense in the after-part of the day than when the patient first rises in the morning. In the treatment of acute orchitis he strongly recommends the tartarized antimony.

"A quarter of a grain of tartar emetic may be exhibited every three or four hours, and the dose, if necessary, increased until nausea is produced. This is one of the most valuable remedies that can be employed in acute orchitis; and when patients are desirous of avoiding the trouble, mess, and exposure consequent upon the application of leeches, the exhibition of tartar emetic will generally render local depletion unnecessary, whilst its depressing influence being only temporary, the patient quickly regains his health and strength. I have seen most acute orchitis arrested and subdued in thirty hours by keeping up constant nausea by means of this remedy. When there is much pain or constitutional derangement, two or three grains of calomel, combined with eight or ten grains of Dover's powder, or with small doses of morphia, may be given at bedtime. In consecutive orchitis, in which the tunica vaginalis is so generally affected, considerable benefit is derived from mercury, and experience fully confirms what reason would lead us to expect from its remarkable efficacy in inflammation of the other serous membranes. The value, indeed, of mercury in the treatment of this form of orchitis, scarcely appears to be fully appreciated by the profession. In acute cases, after the bowels have been freely acted on, and the pulse has been lowered by tartar emetic, I usually prescribe mercury, and continue it until the gums become slightly affected. I am confident that by this treatment the duration of this form of the disease is often materially abridged, and, what is of some importance, it is succeeded by much less induration and thickening of the epididymis than when the exhibition of mercury has been deferred to a later period." ("A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum." With illustrations. By T. B. Curling, Lecturer on Surgery, and Assistant Surgeon to the London Hospital, Surgeon to the Jews' Hospital, &c.)

In noticing some portions of Dr. Ashwell's work on the "Diseases peculiar to Women," our selection will comprise what is *most* practical; as the great value of the book, in the author's own estimation, seems to have been its truthful adaptation to the detection and cure of disease. Guy's Hospital, the largest in Britain, afforded him daily opportunities on a very large scale for observing and treating these affections. The results are embodied in the histories and opinions contained in the book and its numerous cases. The latter are nearly all verified, either by the hospital "imprimatur," being extracted from its ward books, open to general inspection; or by the name of the practitioner by whom Dr. A. was consulted. The absence of such authentication is at times unavoidable, and ought not then to weaken the influence of cases; but without being invidious, it may be assumed that their worth is greatly enhanced by so complete a freedom from all suspicion of partiality or error.

Dr. Ashwell remarks, "that structural disease of the lung is most frequently combined either with chlorosis alone, or with chlorosis and amenorrhœa. The vicissitudes of an English climate predispose to phthisical disease; and with the physiological circumstances peculiar to the sex, explain how it is that girls so

frequently die at the epoch of puberty, of this formidable malady. It is remarked that patients apparently far advanced, sometimes recover, where the pulse becomes slower, fuller, and softer, the cough less frequent, where the pyrexia disappears, and especially where the patient, in ever so trivial a degree gathers flesh. Dr. Ashwell particularly enjoins early and sedulous treatment in this but slightly recognized complication; and affirms his belief that it is far more frequent and fatal than has generally been supposed; scarcely a year passing without his seeing many melancholy examples. Early and entire change of air, a sea voyage, a milder climate, frequent travelling, and cheerful society, offer the best prospect, together with appropriate medical remedies, of creating or renewing vigour of system, and a healthy condition of the pulmonary organs.

In the chapter on amenorrhœa, some very interesting cases are narrated where it depended on congenital deficiency, malformation, and structural diseases of the genital organs. The opinion is enunciated, that menstruation as well as conception, is dependent on the existence and influence of the ovaries; it follows, therefore, if the absence of the function is dependent on the absence of these organs, the disease is irremediable. Where, on the contrary, an imperforate hymen, an occluded os, or a thin septum across the vagina, prevents the exit of the menstrual secretion, the knife, the bougie, or the finger, may accomplish a cure. If the cervix uteri exist, without a pervious canal, a trochar of small size, or a firm bougie, may form an artificial one; but in the other and more serious malformations, where there is extensive obliteration of the vagina, or merely a rudiment of this passage, or where there is only a space between the urethra and rectum, and where, although the uterus be present, it cannot be reached, except by exploratory incisions, in such complicated examples, the safety of the patient will generally depend on the discreet non-interference of the surgeon, while her cure must be looked for from his courage and enterprise.

In the *inflammatory congestive* forms of dysmenorrhœa, Dr. Ashwell says that in addition to the usual remedies, *local* depletion is peremptorily required; and there are cases where there is vascular fulness, in which a small general bleeding will be advantageous. Congestion almost invariably prevents secretion; the unloading of the vessels, therefore, aids the flow of the discharge. In the majority of instances, cupping on the loins, to the extent of eight, ten, or twelve ounces, or leeches, will suffice; and, if necessary, the bleeding may easily be repeated. Leeches to the os uteri have been already mentioned, and he thinks that when well applied, they are decidedly more beneficial than any other local depletion. Many times he has witnessed their superior efficacy in relieving the severe pain; in one instance, where the patient had been in the habit, for several years, of being occasionally cupped, the relief afforded by thus directly unloading the congested vessels themselves, exceeded, to use her own expression, any idea she could have formed. The speculum tube may be introduced into the vagina prior to their application; and if the cervix be brought fully into view, neither the vagina nor any other part than this portion of the congested viscus will be fixed on by the leeches. Their use should, as much as possible, be confined to married women. Dr. Ashwell thinks, that on "Congestive Menorrhagia," which generally occurs at the middle or advanced periods of life, enough attention has not been bestowed. It continues long, even for several years, and frequently in alarming excess, inducing a feeble and quick pulse, coldness of hands and feet, and pallor, anxiety and collapse of the countenance. The bulk of the uterus is increased, there is fulness of the cervix and the os is patulous. Congestion of the uterine vessels, is the explanatory cause of the bleedings. Happily the malady is generally cured, or perhaps it would be more correct to say, that as the catamenial function ceases, the bleedings cease also. But these formidable losses seriously injure the health and lay the foundation of uterine softening. There is, too, a probability of dropsy, and the sufferer may be destroyed by phthisis.

Cold to the lower abdomen and genitals, and particularly *plugging the vagina* with *soft tow*, when the bleeding threatens life, must be employed. Two alarming cases are narrated, where life was preserved by the injection into the cavity

of the womb of a few drachms of the *spirit of turpentine*—the effect was very intense pain, and as though there had been burning coals in the uterus and bladder. In cases of alarming menorrhagia, it is a matter of moment that the practitioner remain with the patient, and ascertain very frequently the extent of the hæmorrhage. In puerperal bleedings, after the expulsion of the placenta, life is often dependent on this precaution. A crown princess of Austria, who had been attended by the celebrated Boer, of Vienna, (the case is related by Dr. Rigby), and many other women, have been lost from the neglect of its observance, and in these instances it is scarcely less necessary. After excessive menorrhagic bleeding by gushes, or in a stream, the powers of life are often reduced to a very low ebb; and protracted but slight drainings may therefore afterwards insidiously and unexpectedly sink the patient.

Dr. Ashwell thinks the hard or fibrous tumours of the uterus genuine cancerous productions, although occupying the lowest place in the scale of malignancy. The following reasons appear to him conclusive:—1. They possess the structure of compound adventitious cysts, the basis of this class of heterologue formations. 2. In the colour of the contained mass, and in the arrangement of the membranous septa or bands, the containing tissue; they are identical with scirrhus. 3. In hardness, occasionally justifying the application to them of the term stone cancer; they are not to be distinguished from the varieties of carcinoma already mentioned. 4. They occur very frequently in conjunction with growths of undoubted malignancy in other parts of the uterus. 5. And lastly, they possess one especial attribute of malignancy, incurability.

On the diseases of females we have seen no work which we more approve of, and hope it will meet with very extensive circulation.

TESTIMONIALS.

From CHANDLER R. GILMAN, M. D., *Professor College of Physicians and Surgeons, New-York.*

Mr Daniel Adee:— New-York, Dec. 14, 1844.

I have been a constant reader of the RETROSPECT from its first publication, and erteem it very highly. As a digest of the periodical literature of the day it is of the greatest value to medical men whose occupations do not permit them to devote much time to reading. No other work with which I am familiar will enable the practitioner to keep himself so well informed as to the progress of medical science. I commend it very earnestly to the patronage of the profession.

C. R. GILMAN, M. D.

From H. D. BULKLEY, M. D., *late Physician to the N. Y. Dispensary.*

Mr. Daniel Adee:— New-York, Dec. 14, 1844.

I have been gratified with the very favourable manner with which your republication of Braithwaite's Retrospect of Practical Medicine and Surgery has been received by the profession in this country. For bringing this truly valuable work within the reach of so many who could not otherwise have availed themselves of it, and that, too, at a price so moderate, you well deserve our thanks—and you have my best wishes for continued success in your enterprise.

Yours, &c., H. D. BULKLEY, M. D.

From ROBERT WATTS, JR., M. D., *Professor of Anatomy and Physiology in the College of Physicians and Surgeons of the University of the State of New-York.*

Dear Sir:— New-York, Dec. 13th, 1844.

Although it is rather late in the day for me to offer an opinion with regard to BRAITHWAITE'S RETROSPECT, yet as you think it may be of use, I am most happy to serve you I consider your Republication the most valuable medical periodical published in this country, containing as it does the cream of the foreign and American journals. I think it especially valuable to those of our profession who reside in this country, and who have it not in their power to take a number of journals, and to whom under our present post-office system, the expense of receiving journals by mail is often greater than the cost of the work itself.

I remain, &c., R. WATTS, Jr.

Mr. Daniel Adee:— Boston, Dec. 5, 1844.

We have examined with considerable attention the work of Mr. Braithwaite, and think it affords an excellent view of the existing state of Medicine and Surgery. To those of the profession who have not free access to the foreign medical journals it must be invaluable.

JOHN C. WARREN,
J. MASON WARREN,
W. CHANNING.

From JACOB BIGELOW, M. D., *Professor of Materia Medica, and Theory and Practice of Medicine, Massachusetts Medical College.*

Mr. D. Adee:— Boston, Dec. 5, 1844.

I consider Braithwaite's Retrospect a useful exhibition in a compendious form of the improvements and other novelties which annually appear in medicine and its subsidiary branches.

JACOB BIGELOW.

THE

RETROSPECT

OF

PRACTICAL MEDICINE & SURGERY,

BEING

A Half-Yearly Journal,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

Edited by

W. BRAITHWAITE,

Surgeon to the Leeds General Eye and Ear Infirmary, and Lecturer on Midwifery and the Diseases of Women and Children, in the Leeds School of Medicine.

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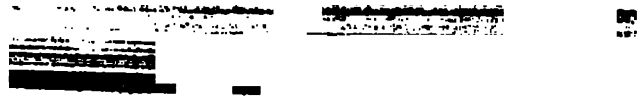

still air of a lower temperature. When this apparatus is properly secured and brought into regular action, it may be continued while other measures are resorted to; and even in old irreducible hernia it may be found occasionally successful, even when the tedious means adopted by Arnaud have been abandoned. Many practitioners might decline adopting these measures on account of the trouble attending them; in this case we would recommend a common bladder to be filled with ice or the coldest water, and the pressure to be made by some folds of sheet-lead or a saucer, which will enable any one to keep it up steadily and equably. This should be done in the position which is best adapted to the taxis; but as this could not easily be done in cases of irreducible hernia, which require a very long and tedious application of these means, the equable pressure of condensed air may occasionally be substituted, in the way recommended by Dr. Arnott, in his treatise on strictures of the urethra, viz., by means of a Mackintosh air-case, which ought to be thin where it is applied to the skin, and of larger dimensions than the outer part, for the purpose of its coming closely in contact with all the inequalities of the surface. Perhaps few subjects in surgery have been more neglected than the treatment of irreducible hernia. The patient is allowed to go through life exposed to all the hazards of his situation without any long-continued attempt to relieve him. These cases may probably one day be found more curable than is at present supposed. We know that pressure steadily applied will cause the absorption of morbid growths or adventitious matter; and even scirrhous and malignant tumours have been known to yield to it. It will be evident to every one that this can be applied to a globular tumour better by the means recommended by Dr. Arnott, than by the application of a bandage. It seems now to be the opinion of some of our most eminent surgeons, that before the operation for strangulated hernia is had recourse to, the forcible distention of the bowel, below the stricture by the injection of a sufficient quantity of fluid, ought invariably to be tried. The principle of this practice may be illustrated by a very simple experiment. "Put a loop or fold of the intestine of a pig between two fingers, and distend it by a syringe, whilst the fingers are strongly grasping the loop. Immediately on the gut becoming filled, its loop (representing the strangulated portion of intestine) is gradually but powerfully withdrawn from between the fingers." This method would be more useful when the colon is the part protruded as in umbilical hernia: where the small intestine is strangulated, the injection must be forced beyond the valve of the ileum, an operation which has frequently been accomplished. The same means may be used in intus-susception: and in this affection Dr. Arnott has found that rapid mercurialization has frequently been a means of relieving the patient. Some practitioners have recommended that before the actual division of the stricture by the knife is adopted, dilatation of the part should be attempted.

But we think that however plausible this may appear, the instrument by which it is to be done satisfactorily, has not yet been discovered. On this point we do not think Dr. Arnott's advice is judicious. He says "two or more broad, flat probes, with wedge-like, blunt points, might often be inserted on opposite sides of the intestine, and the stricture be stretched by separating them in a parallel direction, either by the hands alone or by easily contrived mechanism on the principle of the hand-screw." With this opinion we cannot agree, and yet it is very possible that at some future time dilatation may be made useful for this dangerous affection. (74.)

The term *pannus* has generally been applied to an opaque vascular thickening of the layer of the conjunctiva covering the cornea, generally produced by the continuance of purulent or strumous ophthalmia, or by chronic inflammation of the cornea. During the course of these affections, especially the first, the palpebral lining becomes completely altered in structure, giving rise to what is called a granulated state of the eyelids, which by its mechanical friction on the surface of the cornea, causes its vessels to be enlarged, loosening and thickening its conjunctival layer; hence haziness, a nebulous state, or great opacity. The treatment of this affection has confessedly been one of the most difficult and tedious in surgery. Various plans have been adopted; the removal

ternal coagulum and the deposit of coagulable lymph has never been insisted on as particularly essential to the success of the process. While all writers are now convinced of the utility of the divided internal coat, many of them disagree as to the use of the lymph or coagulum outside the vessel, some, as Mr. Allan Burns, supposing that it is necessary, up to a certain stage of the process, viz., until by its pressure it shall have excited such a degree of irritation as to give rise to adhesive inflammation between the opposite surfaces of the internal tunics of the vessel, to a greater extent than the presence of the ligature alone could produce; others, as Jones, Travers, Guthrie, &c., look upon the clot as merely an adventitious circumstance, which, when it takes place, may assist, but is not essential to the completion of the process. Now although these opinions are more or less correct, we think with Mr. Spence that sufficient stress has not been laid upon the changes which take place outside the vessel. If the changes are attentively observed, it will be found that on the 13th day, when the ligature has fairly come away, the lymph has assumed the appearance of a firm connecting medium uniting the divided ends of the vessel, not unlike the exuberant callus in a fracture; on the 28th day this lymph has become firmer, and the vessel has the appearance of a firm impervious cord. So that we may perceive that this deposit of lymph is not only useful in connecting the divided ends of the vessel, and thus supporting the adhesion of the internal coats at the period of separation of the ligature, but by its pressure it will also diminish the calibre of the vessel, and thereby lessen the impulse of the blood in the neighbourhood of the ligature. The conclusion becomes more obvious when we remember the success which has lately attended the application of a ligature at a very short distance from the point where a large branch was given off, as in the case of Dr. Bellingham, where it was applied to the external iliac within half an inch of the bifurcation of the common iliac. (See Retrospect, Part vii., art. 57.) (71.)

In those affections of the brain which have resisted all ordinary remedies, in paralysis, impending effusions, convulsions, erysipelas of the head and membranes of the brain; in the very advanced stages of fever, &c. Dr. Wallis, of Bristol, has used with success in many cases, a very severe mode of counter-irritation, first brought into notice by Mr. Smith, senior surgeon of the Bristol Infirmary. This is done by making a longitudinal incision or issue on the calvarium. The head is first to be shaved, and the scalp put on the stretch by the operator's left hand; the incision is then to be commenced between the thumb and fore-finger as far back as the lambdoidal suture, and the scalp is to be divided entirely through at once, and the incision carried directly along the sagittal suture, as far as the hair grows on the scalp. Care should be taken that the scalp be divided entirely and perfectly through, so that the edges of the wound will separate so far as to permit a dossil of lint, as thick as two fingers, well soaked in spirit of turpentine to be introduced. If the scalp is not thus completely incised the arteries will not be sufficiently divided to cause contraction, and they may bleed to an inconvenient degree. If the hæmorrhage is not desired it may be checked by pressure, or the actual cautery applied for a moment to the arteries. When the dossil of lint has been introduced into the wound, adhesive straps may be applied till the next day, when the fear of hæmorrhage will have subsided. The lint and straps being removed, a poultice may be applied, and if suppuration be not inclined to come on by the second or third day, a little spirit of turpentine may be rubbed up with some unguentum resinæ flavæ, or even a little blister ointment may be used. In a few days a double row of peas, 70 or 80 strung together, may be used to prevent granulations filling up the issue, a point rather difficult to accomplish, especially in chronic diseases where the issue is required to be kept open three or four months: indeed this cannot be done without the repeated use of caustic. We confess that this seems to be a most severe proceeding, and we should not have ventured to publish the account if the practice had not been recommended by such good authority. Of course, such a remedy ought seldom or never to be used in the first onset of a disease, and in acute cases the greatest discrimination will be required to use it at the proper time. (72.)

The case of Mr. Brunel in whose windpipe a half sovereign was accidentally

lodged, has given rise to one or two practical suggestions which on future occasions will be found valuable. Although the symptoms in such a case may not be immediately dangerous: disease of the lungs would very probably take place sooner or later, and, therefore, it would be always wise to take the necessary steps for the removal of such a foreign body without loss of time. The opening in the trachea in Mr. Brunel's case answered one important end, viz.: it enabled the patient to be inverted without giving rise to violent symptoms of suffocation, which took place on this change of position before this orifice was made. From this circumstance Sir B. Brodie comes to the conclusion that in all similar cases where it is necessary to invert the body for the sake of dislodging a foreign substance from the lower part of the windpipe or its bifurcations, tracheotomy ought always to be previously performed. This will always act like a safety-valve to prevent suffocation, and will also enable the practitioner to manipulate with the forceps or any other instrument that he may wish to use. At the same time it will be seen from the experience of Mr. Erichsen that such an opening in the trachea does not materially diminish the irritability and contractility of the glottis; and for this reason he has suggested an instrument which will answer the double purpose of intercepting any foreign body which might fall downwards towards the larynx during the inverted position of the body, and of a scoop so as to extract the substance when it is caught in its net. "It consists of a pair of cross action forceps, the blades of which terminate in branches 2½ inches in length, and slightly bowed at the extremities; within the bowed part is inserted a piece of delicate but strong net: the forceps open to the extent of three quarters of an inch, which will be sufficient to obstruct all passage through the windpipe in the ordinary situation for tracheotomy." When the patient is inverted it is evident that any foreign body would be very likely to fall into this net, and might then be removed at once, or by a pair of common forceps. (73.)

It is scarcely necessary, in introducing an improvement in the treatment of strangulated hernia, to go over the more ordinary methods of reduction. Every medical student of a few years' standing, will now be able to recapitulate the treatment by the taxis, by blood-letting, by the warm bath, cold applications, injections of tobacco, purgatives, and purgative enemata, the exhausting syringe of the stomach-pump, antispasmodics, opium, belladonna, and lastly, by means of dividing the stricture. Some of these more ordinary means of treatment have been lately improved; and Dr. James Arnott, of Brighton, offers for consideration some remedial measures on a principle different from any hitherto applied. Two of the best and simplest methods of reduction are long-continued pressure of the hernial tumour and the application of cold to it. But neither of these modes have hitherto been perfectly applied singly, or conjointly. If they are so often successful when applied separately in the way which is usually adopted, we think that they may be still more so when applied conjointly in the way recommended by Dr. Arnott. The continued application of cold and pressure will reduce the volume of the gas in the intestine, and materially aid in keeping down inflammatory action. It may be accomplished by placing a bladder of water upon the hernial tumour, and keeping up pressure upon it by the hands or some other contrivance; and at the same time by causing a current or constant change of water in the bladder by means of two tubes, one conveying the water to the bladder from a reservoir above, and the other conveying it away to a receiving vessel. The bladder should be confined to the hernial tumour by a metallic or wooden case, in the form of a basin, or by a small flower-pot, of considerably smaller diameter than its own, and having an opening in the centre for the passage of the current tubes. By this means the hernial tumour will be completely surrounded by, and imbedded in the bladder, which may be kept at the required pressure by a bandage or truss. (For further details respecting the local application of heat and cold, see Dr. Arnott's paper in the Lancet for June 25, 1842.)

This constant change of cold water will be found to produce even a more powerful effect than when ice is used; in the same way that a heated substance is more quickly cooled by exposure to a current of air than when exposed to a

been performed Dr. Lawrie perceived, on inspecting the amputated limb, that the epiphyses at each extremity was throwing out ossific matter with great energy; and if time had been given and the health of the patient had held out, the tibia might have been completely renovated after the removal of the old portions. It was this circumstance which led him to rely on the power of nature in his second case; and he was not disappointed. This, however, is not always to be relied upon, for in a case under puberty, related by Mr. Fergusson, the anterior half of nearly the whole tibia separated by necrosis without any reproduction of bone; and although the skin cicatrized the limb gave way under the weight of the body, and bent so much that the patient requested amputation to be performed. The cases, however, of Dr. Lawrie are exceedingly interesting both in a physiological and a practical point of view. One case shows that the deposits of bone had extended from the epiphyses of the knee and ankle, so as nearly to meet in the middle of the leg, and, if time had been allowed, they would have done so. The periosteum was separated all around from the head shaft, and there were but few deposits of bone from either of these parts; they arose chiefly from the epiphyses. Several other cases of the regeneration of the long bones will be found in Mr. Cooper's Surgical Dictionary, but none more interesting than these cases of Dr. Lawrie. (66.)

In our last Retrospect we referred to the cases of aneurism which had been cured by partial and interrupted compression of the vessel. This is certainly one of the most important improvements in surgery which we have lately referred to. Since the time of Hunter the simplicity introduced into the treatment of aneurism by tying the vessel seems to have prevented the simpler method of compression from being often tried, more especially since this compression was generally applied, to the great discomfort of the patient, immediately upon the tumour, and the entire limb was occasionally compressed at the same time by a bandage. Valsalva's treatment was often conjoined, viz., perfect rest in the horizontal posture, very low diet, and frequent bloodletting. Various methods of compressing the artery have been from time to time adopted, but the success has generally been so partial that all modern surgeons till the present time have rather discouraged any attempts of this kind: partly owing to the imperfect construction of the instruments, and partly from a mistaken theory respecting the mode in which pressure acted, or from ignorance of the exact amount of pressure required, thinking that it was necessary completely to interrupt the current of blood in the vessel; whereas this last circumstance is most likely to retard the cure of the disease, as it must in some measure cause obliteration of the artery at that part to which the pressure has been made. A partial current, however, through an aneurismal sac has been found to lead to the deposition of fibrine in its interior, and to cause it to be filled and obstructed: the fibrine becomes entangled in the parietes of the sac in the first instance, and this goes on increased until it becomes filled. In all these cases Dr. Bellingham recommends Valsalva's treatment, above mentioned, to be conjoined. (68.)

Mr. James, of Exeter, brought before the meeting of the Provincial Medical Association at Leeds several cases in which the severe contraction after burns had been considerably relieved by a regular system of extension. Dr. Mutter of Philadelphia, relates several remarkable cases in which the old cicatrices were entirely dissected out, and a fresh and healthy portion of the neighbouring skin introduced in their place. But even this, although a bold and in many cases a successful operation, will sometimes fail. (See Retrospect, Part VI., art. 51.) These remarks more especially apply to cicatrices of the neck. Mr. James's treatment consists in dissecting the hardened cicatrix from the neighbouring parts and covering the large exposed surface with moistened lint, and bread and water poultices confined by a paste-board collar, until suppuration is freely established. He then applies what he calls a screw-collar, by means of which he can elevate the chin and keep it at any particular degree of elevation till a fresh cicatrix has formed. (70.)

Mr. Spence, of Edinburgh, has pointed out an important omission, by different authors and experimenters, on the process which nature adopts, after the application of a ligature, to close the divided ends of an artery. The use of the ex-

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peculiar aneurismal cough, a *bruit de soufflet* on placing the stethoscope over the tumour, and a thrill sensible to the hand; and, as far as I have been able to ascertain, aneurism of the thoracic aorta has never presented itself externally in two situations so *widely separated*. They were also distinguished from aneurism in the following particulars; the greater portion of the affected side was dull, and without respiratory murmur, yet the pulsation was *only* felt in the external tumours, in this respect differing essentially from aneurisms, in which the pulsation, thrill, and *bruit de soufflet* (when present) *are most intense at the point of maximum dullness;* and though by pressure on a bronchial tube, aneurisms may prevent the entrance of air into the part of the lung to which the tube leads, and thus produce absence of murmur, yet this portion of lung will yield a clear sound on percussion, thus presenting phenomena altogether different from those observed in my cases.

These cases, however, establish the fact, that "empyema of necessity" is liable to be mistaken for aneurism, particularly (as in the first case) when it occurs in the form of *one large pulsating tumour*, and an accurate knowledge of the characteristic features of the two affections is necessary, in order to avoid committing the grievous error of pronouncing an empyema to be an aneurism, or *vice versa*. But we do not anticipate so much difficulty in distinguishing between these two diseases as between such cases as I have detailed, and "cancer of the lung and mediastinum." At the very outset of our investigation a great difficulty presents itself, for we cannot avail ourselves of the aid derived from the history of the disease, for in many of the most accurately recorded instances of cancer of the lung, the patients evidently suffered at the commencement of their illness *from pleurisy excited by ordinary causes, and followed by empyema*, and in other instances where the existence of empyema was not actually discovered, the history of the cases resembled, in many particulars, that of ordinary pleurisy.

[Mr. Mac Donnell next relates two interesting cases of empyema in which the pus made its way, not externally, but into one or more of the bronchial tubes, and was removed by expectoration. The first case commenced with acute pleuritis, followed by *copious purulent expectoration*, two large sputa-cups full of thick, yellow, "well concocted" pus being expectorated daily. The entire of the empyema was thus removed by expectoration, and in six weeks the patient quite recovered. Professor Greene, in the 17th vol. of the Dublin Journal, has drawn the attention of the profession to some cases of this kind.]

"He details the particulars of four cases of the disease, in all of which copious *purulent* expectoration was a prominent symptom; and in all there were external tumours, which it was deemed prudent to puncture. In these instances, it was observed that as soon as the matter got exit by the external opening, the quantity of *purulent* expectoration diminished, and the same circumstance occurred in the case now mentioned. Dr. Greene adds—'The first explanation I heard offered as to the nature and cause of this expectoration, was suggested by Dr. Hutton, in a consultation held on one of the cases detailed. He observed, that he had frequently seen the expectoration to subside and lose its character when an opening had been made for the collection, and had consequently come to the conclusion, that in many cases of empyema, the expectoration was the result of an effort of nature to free the system of purulent deposit through an external outlet, which, in these instances, was effected through the bronchial tubes."

The paper of Dr. Greene must be regarded by every physician as one of the most useful that has appeared for many years. We learn from it that though a patient present all the symptoms of extensive empyema of one side, with bronchitis rales or gurgling in the opposite lung, and copious *purulent* expectoration, the case is not to be despaired of, nor are we justified in giving a positive diagnosis of the existence of pulmonary abscess.

Before the appearance of Dr. Greene's paper, these cases would have

been considered as hopeless examples of pulmonary abscesses, or at least of empyemas bursting into a bronchial tube. This leads me to make a few remarks, suggested by the close observation of some cases of empyema, which have terminated by purulent discharges from the bronchial tubes. There are two modes by which this process is effected; in one, the membrane *takes on a vicarious action*, by which large quantities of pus are discharged *without any distinct evidence of inflammation being set up in the membrane, or communication being established between the bronchial tubes and the sac of the abscess.* In the other form, a *direct* communication exists between the bronchial tube and the sac of the empyema. They are both efforts of nature to get rid of the purulent collection and effect a spontaneous cure, but as the means adopted are so widely different, an equally opposite train of symptoms may be expected to attend these processes, and such we find to be the case.

In the examples detailed by Dr. Greene, and in those which I have given, the expectoration was thrown up *in small quantities at each paroxysm* of coughing, and though it amounted to a considerable quantity during the twenty-four hours, yet what followed each paroxysm of coughing never occasioned any distress to the patient, or alarm to his attendants, and was excreted gradually and regularly, without producing any violent or distressing symptom to the patient; and the removal of the empyema, as shown by diminution in the extent of the dullness and return of respiratory murmur in the affected side, was equally gradual and progressive. But, in the second class of cases, where a direct communication has been established, we have, in addition to the rapid development of the physical signs denoting the accident (such as the sudden removal of the dullness, with metallic phenomena of the voice and cough, and a tympanitic sound over the portion of the chest previously dull), *a violent and sudden paroxysm of coughing, usually accompanied with expectoration of a large quantity of pus, so great as in almost every instance to produce the most alarming symptoms of suffocation, and not unfrequently even death from this cause.* This is followed by relief for a time, but a second and third accumulation of the matter takes place, which is again got rid of in the same way; and on each occasion the patient's life is in imminent danger from asphyxia."

[It might seem difficult to distinguish these cases from true pulmonary abscesses, but these latter affections "are not accompanied with very copious expectoration, but on the contrary are found to contain an exceedingly small quantity of pus." Pneumonic abscess is moreover one of the rarest lesions met with in the lungs, and almost always occupies the base of the organ, while tubercular abscess is situated in the apex. The points discussed in this admirable paper of Mr. Mac Donnell are summed up by him as follows:—]

1. That in cases I., II., III., we are presented with a new form of empyema which may be termed "Pulsating Empyema of necessity," exhibiting some features common to that form of empyema and to thoracic aneurism, and encephaloid disease of the lung. 2. That it may be diagnosed from thoracic aneurism, by *a.* The history of the case. *b.* The dullness extending over the whole side, the pulsation being only felt in the external tumour. *c.* The absence of thrill. *d.* The absence of *bruit de soufflet*. *e.* The extent and nature of the fluctuation. 3. That it may be distinguished from encephaloid disease of the lungs and mediastinum, by *a.* The absence of the expectoration resembling *black currant jelly*. *b.* The absence of a persistent bronchitis. *c.* The absence of a varicose condition of the veins and œdema of the side affected. *d.* In cancer of the lung the situation in which the external tumours form, is not invariably confined to the thorax. 4. That copious purulent expectoration in empyema is not always indicative of cavities in the lung; but, on the contrary, is of frequent occurrence in this disease, and seems to be the result of an effort of nature to get rid of the purulent collection at the nearest and readiest outlet. 5. That this symptom, when it results

from the above cause, is not attended with the usual symptoms either of abscess of the lungs, or inflammation of the bronchial mucous membrane. 6. That a *true* bronchitis of the sound lung frequently complicates empyema. 7. That still more frequently the sound lung becomes congested, and presents some of the ordinary signs of bronchitis and pneumonia, from both of which it may be distinguished by attention to the rules laid down in the previous part of this communication. 8. That in addition to *depression* of the liver from mechanical causes, that organ is likewise *enlarged from engorgement with blood* in empyema. 9. This enlargement is not confined to empyema of the right side, but occurs also when the disease is seated in the left cavity of the chest. 10. That this enlargement is identical with that which takes place in other affections of the lungs and heart, where, in consequence of their functions being impaired, an additional duty is imposed upon the liver, viz., *that of eliminating carbon from the blood*, as proved by the researches of Tiedeman and Gmelin, Elliotson and Liebig; and as occurs in the former cases, so likewise we observe in this, that the increased size of the organ is due to an additional afflux of blood, whereby its structure becomes engorged, softer in consistence, and darker in colour. 11. This condition of the liver has been observed by myself as proved by dissection (see Case 1.), and its presence detected in other cases that have recovered. It has also been mentioned by many writers in their accounts of the appearances noticed at the autopsies of cases of empyema, who have recorded the fact, though unaware of its connection with the subject under discussion, and it must now be considered as constituting an additional feature in the diagnosis and pathology of empyema. 12. This condition of the liver when it occurs in the ordinary diseases of the heart and lungs, has been observed to disappear as soon as the obstruction to the circulation of the blood and want of proper aeration, which gave rise to it, had ceased. So likewise in empyema, its disappearance is one of the first signs which indicate the removal of the effusion, and the return of the compressed lung to the performance of its functions.

Dublin Jour. of M. S., March, 1844, *p.* 1–44.

2.—REMARKS ON URINARY DISEASE.—By JOHN ALDRIDGE, M.D., Lecturer on Chemistry, at the School of Medicine, Park-street, Dublin.

[Dr. Aldridge has written an excellent paper on this subject, in which he denies the views of Liebig to be correct. He maintains]—

That a deposition of lithates in the urine corresponds with an increased quantity of urea and lactic acid; that the amonnt of these essential constituents of the secretion can be measured by the specific gravity, provided no unaccustomed substance, such as sugar or albumen, be present; that the relatively increased quantity of lithic acid, urea, and lactic acid, in these cases, does not depend on a greater amount of these substances being secreted by the kidneys, but upon a deficiency of water, which renders the liquid more concentrated; and that this deficiency of water proceeds from either of two causes, namely, a derivation to some other organ by flux or dropsy, or by a sympathetic irritation of the kidneys themselves. The experienced physician will at once perceive the importance of the truth of this proposition; by means of it he can discover in a case where the urine is high-coloured and concentrated, and where there is no excessive sweating, diarrhœa, nor dropsy from the heart or liver disease present, the existence of an irritation in the head, chest, or abdomen, perhaps in other respects latent. Or, on the other hand, if the urine be pale and transparent, although strabismus, convulsions, delirium, heat of head and bounding carotids should all display themselves, he can confidently say, "there is no inflammation here; this is hysteria." It may therefore be admitted as established, in the present state of science, that in disease the urine is more frequently characterised by alterations in the quantity of water excreted, than by changes in the proportions of its essential organic elements; and that a deposit of lithates, in a

case where there is excessive secretion from no other organ, is the sign of an irritation, either primary or secondary, of the renal substance.

Relations of Sugar and Albumen.—Late researches have ascertained that albumen, fibrin, and caseine, are all identical in composition, with the exception of certain quantities of sulphur and phosphorus that they contain. The name of *proteine* has been given to the constant proportions of carbon, hydrogen, nitrogen, and oxygen, which are common to them all. This proteine is composed of $C_{48}. N_6. H_{36}. O_{14}$. Moreover, the gluten, albumen, and legumin of vegetables contain proteine, the same as the essential constituents of the blood and milk in animals.

Vogel and others have shown that the vegetable principles just enumerated are capable of being dissolved in the stomachs of animals, and absorbed as ready-formed blood, capable of nourishing the tissues. There is reason to believe that these vegetable substances are formed out of sugar and ammonia, by the loss of oxygen and water: thus,

$$4\,(C_{12}\ H_{12}\ O_{12}) + 6\,(NH_2) - 30\,(HO) + O_4) = C_{48}. N_6. H_{36}. O_{14}.$$

Now, if the essential constituent of albumen is capable of being formed out of sugar and ammonia, with loss of water and oxygen, there is no reason why sugar and ammonia should not be capable of being generated out of albumen, by combination with oxygen and the elements of water.

In diabetes mellitus sugar is present in the urine; its presence in the blood in this disease has been stated by Ambrosiani, Maitland, and M'Gregor; chemists of the first eminence have, however, failed in detecting it; Liebig, in his late work, takes it for granted that its presence in the blood never has been proved. After all, if found in the blood, its origin would remain equally obscure. The true question is, what is the source from whence the sugar is derived? Not from vegetable food; I have seen persons labouring under this disease fed for weeks upon an aliment purely animal, yet they have discharged ounces of sugar daily. I do not mean to deny that animal food is calculated to diminish the quantity of sugar in the urine; I look upon it, in a remedial light, as a useful means of combating the disease But let any physician recollect the amount of farinaceous food, which a diabetic patient in hospital ordinarily consumes, and compare it with the quantity of sugar he passes in his water, and the simplest arithmetical calculation will show that the one cannot possibly be the source of the other.

Liebig has demonstrated that plants are constantly preparing the food of animals, and that animals are as perpetually disengaging the food of plants: in the one there is a continual process of forming organic substances, in the other of decomposing them. The water, carbonic acid, and ammonia eliminated from animals, serve as aliments for vegetables. I can see no objection to the hypothesis being examined, that the sugar and ammonia which by their combination produce albumen, may be formed, in certain cases, by its decomposition. The circumstances under which sugar becomes secreted in diabetes, agree with this hypothesis:—The perspiration being suppressed, the quantity of water necessary for the formation of sugar and ammonia out of albumen may be conceived to be thus afforded.

But there are two observations that seem to add strength to this opinion. The first is, that in all cases where I have had an opportunity of examining diabetic urine immediately upon being passed, I have invariably found it neutral; this may be explained either by the acid of the urine being saturated by ammonia or some other base, or by its being secreted in diminished quantity. The former supposition would accord with the hypothesis of the sugar being derived from the decomposition of albumen. This urine, although at first neutral, rapidly becomes acid, from the sugar undergoing the lactic fermentation, and the acid thus generated throws down the lithic acid in large crystals. After some time, confervoid filaments, beautiful microscopic objects, become diffused through the liquid; and still later, if mould collect upon its surface, globules of various sizes form, which M. Quevenne considers to be yeast, but which I think are the sporangia of the fungi. This I believe to be the history of the putrefaction of diabetic urine.

The other observation is, that diabetic blood contains less albumen than normal, in proportion to its other constituents. The blood of a diabetic patient that I examined some time ago, contained in 2285 grains,

Fibrine	7.9
Hæmatosyne,	411.5
Albumen and insoluble salts	164.4
Water and soluble salts	1701.1

The quantity of water is here much less than usual; this is easily accounted for by the enormous discharge from the kidneys: but the albumen, in proportion to the other solid elements, is much diminished.

There are several points of view in which diabetes mellitus resembles Bright's disease: in both there is a suppression of the functions of the skin; in both there is a tendency to secondary complication; in each there is a new element added to the urine; in both the serum is apt to become milky from admixture with a butyracious fat; in both there is a tendency to increased watery secretion, in the one case a flux, in the other dropsy; in both there is a diminution of albumen in the blood.

Dr. O'Beirne has lately suggested, in a very ingenious essay on dropsy, published in this journal, that albumen in the urine, in Bright's disease, proceeds from pressure and consequent obstruction of the vesical veins. If so, why is not the urine albuminous in ascites depending on lesions of the heart or liver? and why is the urine albuminous in cases of mottled kidney without dropsy? In diabetes there is often albumen in the urine, sometimes a sign of favourable import, sometimes the precursor of dropsical effusions. Before I conclude this note, I wish to notice a practical fact with respect to the detection of albumen:—Nitrate of albumen is soluble in excess of urine; if nitric acid be added in small quantities to albuminous urine, the precipitate at first formed is capable of being re-dissolved by agitation. This proves that nitric acid is a bad means of detecting small quantities of albumen in the urine.

History of Lithic Acid Calculi.—The general opinion in the profession with respect to the formation and history of lithic acid calculi, appears to be the following:—Certain kinds of food, atmospheric influences, and particular constitutional predispositions, are supposed to generate what is called the "lithic acid diathesis,"—a state characterized by a tendency to an increased secretion of lithic acid from the kidneys. This acid and its salts being very sparingly soluble, are apt to concrete in the first urinary passages, forming gravel, or, it may be, small calculi, which, by-and-by, carried down by the force of the urinary torrent, and tearing their way along the ureters, produce fits of nephritic cholic. Some of these small calculi may be retained in the bladder, where they will grow at the expense of the saturated liquid that flows by them; but producing much annoyance in the bladder, and impeding healthful exercise; a cachetic state is brought on, and a new diathesis established. This latter diathesis is the phosphatic, in which there is a tendency to an increased secretion of phosphates; these salts being also sparingly soluble, obey the usual laws of crystallization, and deposit on the nucleus already formed by the lithates. This diathesis may for a time be removed by treatment, but only to make room for a return of the lithic acid diathesis. The treatment which this hypothesis suggests is exceedingly simple. Alkalies dissolve the lithates, and acids dissolve the phosphates. So, of course, when the lithic acid diathesis prevails, you give alkalies; and when the phosphatic diathesis predominates, you exhibit acids.

I believe the whole theory to be founded on misapprehension. I have already given my reasons for disbelieving in the existence of lithic acid and phosphatic diathesis; I will not recapitulate them here, but simply present, in the form of propositions, what I believe to be the truth. 1st. Whenever the perspiratory secretion from the skin, the gastro-pulmonary mucous membrane, or the cellular tissue, is increased, the quantity of water in the urine becomes diminished. 2d. Whenever there is an irritation of the kidneys, whether primary or secondary to an inflammation, acute or subacute,

of any other organ, the quantity of water in the urine becomes diminished. 3d. Whenever the quantity of water in the urine becomes diminished, below the minimum necessary for holding in solution the sparingly soluble lithic acid, or super-lithates, at a given temperature, those substances will become deposited at that temperature, provided the urine be sufficiently acid. 4th. Whenever lithic acid, or the super-lithates, become deposited and retained in any part of the urinary passages, they act as foreign bodies, and excite an inflammatory action in the contiguous mucous surfaces, which inflammatory action is apt to spread downwards to the extremity of the urethra, and upwards to the tubular and cortical substances of the kidneys. 5th. Whenever the tubular and cortical substances of the kidneys become inflamed, in a subacute manner, a generally cathetic state of the system is produced, and the urine ceases to be acid. 6th. Any irritating cause, such as the incautious introduction of sounds, &c., is apt to convert the subacute into acute inflammation of the kidneys, marked by frequent rigors, suppressed or scanty and bloody urine, &c. 7th. Whenever the urine ceases to be acid, it can no longer hold the earthy phosphates in solution, which then become deposited on any substance in the urinary passages calculated to act as a nucleus. 8th. In order to prevent the deposition of lithic acid, or the super-lithates in the urinary passages, the causes which produce diminution of the quantity of water in the urine, according to propositions first and second, must be removed. 9th. In order to prevent the deposition of the phosphates, the acidity of the urine must be restored by subduing the existing nephrites, whether acute or subacute. 10th. In certain cases of chronic cystitis, phosphate of lime becomes secreted from the mucous membrane of the bladder. 11th. The chief deposit from the urine, when alkaline, is composed of crystalline phosphates. 12. The fusible calculus, which is a mixture of crystalline phosphate and phosphate of lime, is produced in complications of chronic cystitis and subacute nephritis. *Dublin Jour. of Med. Science, Jan.*, 1844, *p.* 444–479.

3.—ALBUMINURIA.—By J. D. Heaton, M. D., Physician to the Leeds Public Dispensary and Lecturer on Botany at the Leeds School of Medicine.

[Dr. Heaton has reported a series of interesting cases of this disease occurring in University College Hospital, under the care of Dr. Williams: and although those cases are of a disease which so generally proves fatal, we find some excellent remarks appended which we think will prove interesting. Dr. Heaton found no remedy afford so much relief to the uneasy sensations of the patient as rather large purgative doses of cream of tartar, given two or three times a week: this may be combined with some diuretic, especially the infusion of diosmæ, combined with sp. æth. nit. and tinct. scillæ. He has not found the tinct. cantharidis worthy of the confidence which some practitioners place in it. In short we may say that the treatment in these cases is too often a failure altogether.]

Perhaps these cases, taken in connection, may be considered as affording some illustration to the views which Dr. Williams has for some years explained in the wards of the University College Hospital, and has now embodied in his late work on the Principles of Medicine, as to the anology which exists between various organic diseases affecting certain viscera, but not of a malignant nature. Tubercle in the lungs, cirrhosis of the liver, granular degeneration of the kidney, and opacity and thickening of the valves and membranes of the heart, are all regarded as the result of a deposit of lymph of a cacoplastic or imperfectly organizable character; such lymph showing a strong tendency to induration and contraction subsequently to its deposition, the more marked as it is the further removed from the healthy standard.

Lymph of this imperfect nature may be deposited as the result simply of local causes, as we see in the contracted cicatrices resulting from extensive

burns, and other serious injuries of the surface; but, as affecting internal organs, it usually depends on some imperfection of the system or constitution, analogus to that seen in persons of a scrofulous habit, and which may be either congenital, or developed in the individual *de novo*. In such individuals it may be deposited in an organ either in consequence of inflammation, acute or more usually of a low and chronic character; or, where the constitutional predisposition is strong, instead of the healthy lymph supplied for the ordinary textural nutrition of all parts, without any previous disease in the affected organ.

Resulting, then, from the same unhealthy state of the constitution, and differing in their symptoms and physical characters rather from the circumstances of the organ affected than in their essential nature, a very probable opinion might be formed, *a priori*, that the diseases already mentioned—and if there are others of an analogous nature—would be found, in many instances, more than one of them affecting the same individual. Almost each of the cases already related confirms the truth of this opinion. We have seen the granular disease of the kidney connected with tubercle of the lungs, and with a cirrhose state of the liver, one or both, in many instances; also, with diseased valves of the heart, and with tubercular deposit on the peritoneum. It is, perhaps, questionable how far softening of the brain, in any of its forms, can be included under the same category as the diseases already mentioned; it is, like them, an organic change, wanting the true characters of a malignant disease, but it presents none of the tendency to contract which, at one period or another, is common to the other diseases enumerated. This may, perhaps, merely depend on the great difference which exists between nervous matter and all other textures of the body; the fatty matter of the blood rather than the liquor sanguinis, being, perhaps, more particularly poured out for the nutrition of this tissue. Certainly, softening of the brain is like them, dependent on a degeneration of the healthy tissue, and probably of a constitutional origin. In two of the cases this disease co-existed with the degeneration of the kidney, which led to their introduction here.

As to the case of tubercle of the lungs, so with regard to the disease of the kidneys under consideration, it has been a matter of considerable discussion whether it be of an inflammatory nature or otherwise. That view which, with regard to the former disease, served both to explain the cause of the question, and to afford its solution, serves the same purpose with regard to the latter, namely, that being a disease which, from its nature, may depend either on constitutional causes merely, or on this as a predisposing cause, but excited by a local imflammatory action: both opinions seem to be true in different instances, and in support of both many cases may be brought forward. In some of the cases here related probably the disease may have had merely a constitutional origin; for no cause appears likely to produce an inflammatory action of the kidneys, nor can it be ascertained that the symptoms of such a state have at any time existed: the disease has slowly invaded, and only been discovered when so far advanced as to produce dropsy or other easily recognisable symptoms. In other instances, either an exposure to cold, or habits of intoxication—both causes likely to produce congestion or inflammation of internal organs—have preceded any of the symptoms of the disease; in these instances the disease has probably taken its origin in a congestive or inflammatory state of the kidneys. Certainly most cases which develop themselves suddenly as an acute disease may generally be traced to some such exciting cause; and in such cases the antiphlogistic treatment is that which is necessary, and is most successful.

An instance of this presented itself in a man under the care of Dr. Thomson, in the same hospital, but some time before the period when these cases occurred, where the disease was too far advanced to hope for cure, but where cupping over the loins had been tried on various occasions: and it was noticed that for a few days after each application of this remedy the

amount of albumen in the urine was occasionally diminished, and the urea augmented. Here, probably, an inflammatory state of the kidneys co-existed with the albuminous degeneration.

The correct view of the nature of the disease seems to be, that it depends on a deposit of lymph of an imperfect character in the texture of the kidney, affecting particularly the cortical substance, but as the disease advances, invading also the tubular structure. That where the constitution is very imperfect, this may depend on constitutional causes merely, in which case the bad lymph is deposited in the ordinary process of textural nutrition, but that in many cases this constitutional cause may be aided, and the disease excited, by an inflammatory state of the affected organ, in which case the bad lymph may be poured out not merely in connection with the nutritive process, but as an inflammatory effusion. Allowing to the kidneys the property which Dr. Prout supposes them to possess, of exerting a disorganizing influence on the material to be discharged by these organs, it appears sufficiently intelligible why, when the proper texture of the kidney is supplanted by a morbid deposit, these organs should lose this property, and pour out as through a mere filter, the fluid part of the blood, retaining more or less of its albuminous character. It seems difficult to afford a probable explanation of the great diminution in the amount of the red globules in the blood, which seem essential to this disease. Whatever this may be, it is not unlikely that the great tendency to dropsical effusion depends on this state of the blood; as in chlorosis—another disease in which there is a great diminution of the colouring matter of the blood—there is a very similar tendency. *Med. Gaz., March* 29, 1844, *p.* 850.

4.—EFFECTS OF REAGENTS UPON URINARY DEPOSITS.—By J. W. Griffith, M. D., F. L. S.

The characters in the first columns, combined with the microscopic appearances, will serve to distinguish one from the other, and, being readily applied, will be sufficient for the use of those who have not opportunities for their minute investigation.

Name of deposit.	Ordinary Colour.	How affected by				Blowpipe upon Platinum Foil.	Characteristics.
		Boiling Water.	Sol. of Ammon.	Sol. of Potassa.	Acetic Acid.		
Lithic acid.	Yellowish brown.	01	02	Dissolved.	0	Dissipates it entirely.	When evaporated to dryness with dilute nitric acid and ammonia subsequently added, a pink color is developed.
Lithate of Ammonia 3	Whitish, pink, brown & red brown	Dissolved.	Instantly dissolved.	Idem.	04	Idem. 5.	Idem.
Phosp. of lime.	White, amorphus.	0	0	0	Is dissolved without effervescence.	Unaltered.	Nitrate of silver causes a yellow precipitate in the acetic solution, which is also precipitated by oxalate of ammonia.
Ammoniaco magnesian phosphate.	White, generally crystalline.	0	0	0 The odour of ammonia is evolved by heat.	Is dissolved without effervescence.	Ammonia is evolved, otherwise unaltered.	Nitrate of silver precipitates the acetic solution yellow; this, however, is not precipitated by oxalate of ammonia.
Oxalite of lime.	White, generally crystalline.	0	0	0	0	Leaves an alkaline ash, which efferv. with, and dissolves in, dilute muriatic acid.	The solution is precipitated by oxalate of ammonia.
Cystic oxide.	White, bluish, or greenish.	0	Is dissolved.	Is dissolved.	0	Entirely dissipated.	Crystallizes from the ammoniacal solution on evaporation. When boiled with hydrated oxide of lead, the black sulphuret is formed.
Carbon of lime.	White	0	0	0	Is dissolved with effervescence.	Leaves an alkaline ash.	This ash is soluble in acetic acid, and the solution precipitated by oxalate of ammonia.

1. 0 signifies no effect.
2. Those effects which take place at once or within a few minutes only are noticed.
3. When lithate of soda is present, the re-agents mentioned act much more slowly and imperfectly.
4. Acetic acid decomposes lithate of ammonia and throws down the lithic acid, so that one deposit occupies the place of the other, and no apparent change occurs.
5. If lithates of soda or lime are present, an alkaline ash is left.

Med. Gaz., *March* 22, 1844, *p.* 330.

[While placing the foregoing table before our readers, we cannot help extracting some most valuable remarks on the same subject, from Dr. Christison's treatise on diseases of the kidneys, published in the Library of Medicine. They form the best epitome which we know, of the views now entertained on this interesting subject.]

Sometimes the quantity of the urine is greatly increased, occasionally to forty or fifty pints a-day; and this without its constitution being changed. Sometimes, on the other hand, its quantity is much reduced; or it is even entirely suppressed. The density is often preternaturally great, reaching occasionally to 1055 or perhaps even higher. Frequently too it is excessively low, and in some cases has been observed at 1001, or even almost as low as that of water. The daily discharge of solids is often unusually great, and has been known to reach so high as 36 ounces avoirdupois; while on the contrary, it is often very small, so scanty at times as only eleven grains. It is often so loaded with its ordinary constituents as to deposit a copious sediment on cooling. Sometimes, owing to a superabundance of one or more of them, it is muddy even when first passed. Its colour is often altered to blood red, cherry red, brown, or orange. Its odour is sometimes ammoniacal from the first moment it is passed, or becomes so in an hour or two; or it is feeble; or like that of honey; or modified in a variety of ways by particular articles of food and drink. Its taste is also often altered, being sometimes unusually alkaline, or preternaturally saline, or feeble though otherwise

natural, or distinctly sweet. Its action on the vegetable colours is also often altered; instead of rendering litmus paper red, it turns reddened litmus purple, which is owing to the presence of an excess of ammonia in the form of carbonate. Of its ordinary ingredients the *Urea* is perhaps most frequently affected in quantity. Sometimes it appears nearly or altogether wanting; sometimes twice or thrice the average for the most perfect urine is passed daily, in which case the density is usually very high, viz, 1032, or even more, and the proportion of urea is so great that in cool weather nitric acid will cause crystallization of nitrate of urea without the fluid being concentrated. The *Lithic acid* is also very often altered in quantity. Sometimes it is nearly wanting; but a much more important condition is superabundance of this principle, in which case the urine either forms an excessive deposit on cooling, or yields a muddiness or precipitate with a few drops of nitric acid, or contains gritty particles, or even small calculous concretions of lithic acid and lithate of ammonia, at the moment of being passed. Lithic acid exists less frequently in the free state in urinary deposits than in a state of combination with ammonia. When free, the deposit does not necessarily depend on the lithic acid being present to excess in the urine; for it may be simply occasioned by an excess of a stronger acid, such as the muriatic or phosphoric, disengaging the lithic acid from its natural state of combination with ammonia. The uncombined lithic acid tends to the crystalline form. It is known by being insoluble in muriatic acid, sparingly soluble in solutions of the alkaline carbonates, easily soluble in solution of potash, without evolving ammonia, and convertible by heat and nitric acid into a solution which leaves a red residuum when evaporated, and then forms a purple solution with ammonia. It is seldom all uncombined, however, in lithic deposits, being usually either in part or altogether united with ammonia. Deposits of this nature are generally amorphous, seldom crystalline, and present the same chemical properties with uncombined lithic acid, except that they dissolve readily in solutions of alkaline carbonates, give off ammonia when dissolved in solution of potash, and are more soluble in water. The *Earthy Phosphates* are more rarely increased in amount. Sometimes they abound so much as to render the urine milky when passed; more frequently they render it opalescent, and afterwards form a scanty white sediment after a few hours of rest; occasionally they do not separate for a few hours, the urine being previously clear, in which case it is commonly observed that this fluid becomes in the first place ammoniacal; occasionally too they do not separate for a long time, but may be detected in the form of a white flaky precipitate by boiling the urine. The deposit in all these cases consists very rarely of phosphate of lime only, often of the phosphate of magnesia and ammonia, frequently of both together. In certain circumstances the earthy matter is discharged not in the form of an impalpable sediment, but in that of a gritty powder, or in calculous masses of appreciable magnitude. The phosphates are known by being soluble in acetic acid and in muriatic acid, but insoluble in aqua potassæ. If ammonia is disengaged by the potash, the ammoniaco-magnesian phosphate may be presumed to be present. If the solution in acetic acid precipitates with oxalate of ammonia, phosphate of lime is present. If, after the addition of oxalate of ammonia, a precipitate be occasioned by ammonia, the ammoniaco-magnesian phosphate is present. If both re-agents occasion a precipitate, the sediment contains both phosphates. A mixture of the two is remarkably fusible before the blow-pipe flame.

Another frequent impregnation is *serum*, or more correctly speaking, *Albumen*. It is possible that the presence of a small proportion of albumen is sometimes consistent with the healthy state of the secretion—scarcely, however, if the impregnation is habitual. When scanty, it is detected by the action of heat and the mineral acids; being separated in the form of a fleecy powder when the urine is heated near to its boiling point, and remaining undissolved on the subsequent addition of nitric acid. The last character is requisite in order to distinguish this principle from an excess of earthy phos-

phates, as these are easily separated by heat in the form of flakes. Albumen, when present, varies greatly in its proportion; being often less than one part in 1000, and at times so great as 27 parts; in which case the urine is observed to form a uniform and pretty firm jelly on being heated. A remarkable ingredient of one variety of urine is *sugar*. This principle usually renders the secretion superabundant and often excessively so, sweet to the taste, of high density, and fermentable with yeast. Its proportion and quantity vary very much. In a case not long ago under the writer's care, towards thirty ounces of sugar must have been discharged daily for several days together. According to Dr. Prout, a moderate impregnation with sugar is sometimes met with in old dyspeptics or gouty people, without occasioning diuresis or any serious illness; and this statement is confirmed in some measure by Dr. Venables. But much more generally, however, sugar in the urine is associated with great increase of its quantity, and with fatal constitutional derangement.

Carbonate of ammonia is not an uncommon ingredient. It is derived from the urea, which in certain diseased states appears to be secreted with its properties imperfect, and among the rest, more prone to decomposition. It may be often remarked by the ammoniacal odour of the urine, after standing for a few hours; but sometimes the same test will detect it in what is quite fresh and newly passed. Whenever the odour of urine is ammoniacal, an acid disengages a large quantity of carbonic acid. This condition of the urine is almost universal when the earthy phosphates abound as a sediment. *Nitric acid* is said to be an occasional ingredient of urine, having been apparently met with in some forms of inflammatory fever, and also, according to Dr. Prout, in some purple deposits. One of the most interesting morbid ingredients of the urine is *Oxalate of lime*. This constitutes the material of certain forms of gravel, and more frequently of certain calculi. Chemists and physiologists were long at a loss to account for its presence upon chemical grounds; but the difficulty is removed, since Liebig and Wohler lately proved that oxalic acid is formed from urea by the action of certain oxidating agents, such as peroxide of lead. It always exists in the form of a deposit or concretion. Some have supposed that free oxalic acid may at the same time be occasionally present, but this has never been proved except where the acid was swallowed, which Krimer showed may pass out unchanged with the urine. Oxalate of lime is known by being insoluble in aqua potassæ, insoluble in acetic acid, soluble in nitric acid, and convertible at a red heat into carbonate of lime. *Carbonate of lime* is a rare ingredient of urinary deposits. It is to be detected by dissolving with effervescence in muriatic acid, and forming a solution which is precipitated by oxalic acid in excess.

Among the rarer sedimentary matters may be reckoned the *Cystic oxide* of Wollaston, or cystine of later authors. It is probably not so rare as has been hitherto thought, because till of late the attention of practitioners has been chiefly confined to this principle as existing in the form of calculi. It has been recently met with by Dr. Prout, Dr. Venables, and Dr. Willis, in the form of fine impalpable powder, sometimes constituting a deposit, sometimes a floating cloudiness. It may be suspected to exist, where the urine is greenish yellow, muddy, and of a mixed odour of fœtid urine and the sweet briar. But the true nature of the deposit is to be determined by its being soluble in diluted muriatic acid, insoluble in tartaric, acetic, or citric acid, soluble in aqua potassæ, precipitable from this solution by solution of bicarbonate of ammonia, and by its emitting a very peculiar odour when heated. Sometimes the urine presents small *Prostatic calculi* derived from the prostate gland. These have a considerable resemblance to lithic concretions. They are usually yellowish, sometimes earthy and friable, sometimes firm, compact, and polished. They may be known by their appearance, by their being homogeneous, not in concentric layers, and by their containing no other phosphate except that of lime, which very rarely exists alone in true urinary calculi and deposits.

[In the following paragraph Dr. Christison recapitulates the whole method of investigation.]

The lithic gravel is greyish, reddish, or brownish, insoluble in diluted muriatic acid, and easily soluble in aqua potassæ, commonly with evolution of ammonia. It consists of variable proportions of lithic acid and lithate of ammonia, the former of which generally abounds most in the crystalline, and the latter in amorphous forms of it. The corresponding urine is scanty, usually high in density and colour, always at first acid to litmus paper, prone to deposit an adherent sand on standing, and often yielding with a few drops of nitric acid a cloud or flaky precipitate, which disappears under a boiling heat, accompanied commonly with a reddish or purplish change of colour. Phosphatic gravel is usually white or pale grey, and amorphous or crystalline; and it is insoluble in aqua potassæ, but easily soluble in diluted muriatic or acetic acid. It consists very rarely of phosphate of lime alone, sometimes of the phosphate of magnesia and ammonia, and often of both compounds. If ammonia be evolved under the action of potash it contains the ammoniaco-magnesian phosphate; if not, it contains only phosphate of lime. The corresponding urine is copious, pale, low in density, ammoniacal from the first or very soon afterwards, prone to decay, and often rendered turbid by boiling, a white flaky precipitate being separated, which is easily soluble on the addition of nitric acid. Oxalic gravel is commonly brown, ash-grey or bluish, compact, occasionally crystalline, sometimes smooth, sometimes tuberculated; and it is soluble in diluted nitric acid, scarcely soluble in diluted muriatic, insoluble in acetic acid, insoluble in aqua potassæ. The corresponding urine has been little studied. It is clear, probably pale and low in density, and if it contains, as seems not unlikely, a little oxalic acid, it will give, with solution of muriate of lime, a white precipitate not soluble on the addition of a few drops of muriatic acid. Cystic gravel has a crystalline, somewhat waxy appearance, and it is soluble in diluted muriatic acid, insoluble in acetic acid, soluble in solution of carbonate of potash, from which it is precipitated by carbonate of ammonia, The corresponding urine is greenish yellow, of a peculiar odour, like that of the briar mingled with that of decayed urine, and it remains turbid after some hours' rest. *Library of Med. vol. 4, p. 218–228.*

5.—RESPECTIVE VALUE OF THE TESTS FOR DIABETIC URINE.—By GOLDING BIRD, A.M., M.D., &c. &c.

In the treatment of a disease so intractable and fatal as diabetes too generally proves, it becomes of essential importance to detect the first deviation from health. The earliest evidence of this, in the disease in question, is, as is well known, to be sought for in an examination of the urine, as a saccharine condition of that secretion is at least the most constant, if not the necessary accompaniement of almost every phase of diabetes mellitus. It must not be supposed, however, that the existence of traces of sugar in the urine is indicative of the necessary presence of a confirmed diabetes; for it is beyond all doubt, that small quantities of this principle may occasionally exist as the result of a depraved state of the primary or secondary assimilative processes. Still, as far as experience has extended, it has shown that such a condition of the urine must be regarded with great anxiety as a most suspicious symptom; as one which, at least, points out the existence of a most deranged condition of the functions of the stomach, and one which may, in all probability, if its cause be unchecked, be the forerunner of one of the most intractable diseases falling under the province of the physician.

It is true, that in advanced diabetes, where the disease has become confirmed, and the system has suffered severely from its depressing influence, the increased quantity of urine, coupled with its high specific gravity, and its general physical characters, will at once lead to the detection of the disease. Every one who has attended much to the pathology of the urine,

must have, however, met with cases of tolerably well marked diabetes, *quoad* the general symptoms, in which, nevertheless, neither the quantity nor specific gravity of the urine would have, by themselves, been sufficient to lead to a suspicion of the true nature of the disease. A remarkable illustration of this fact occurred in the person of a young woman, who, in the past summer, was a patient in Guy's Hospital (in Dorcas ward), under the care of Dr. Barlow. She had previously been a patient of my own, and then presented well-marked constitutional symptoms of diabetes, with the exception of the absence of the excessive thirst and diuresis. This girl was twenty-eight years of age, but had never menstruated. The peculiar state of the tongue, which resembled a piece of raw flesh, and the harsh skin, induced me to examine the urine. The density of this fluid was but 1.022—scarcely above the average, and she passed but from three to four pints in twenty-four hours. I however found that it contained a large proportion of sugar. In a few weeks the quantity increased to eight or ten pints in twenty-four hours, and she ultimately fell a victim to confirmed diabetes. There is at this moment a man, about sixty years of age, in the hospital (Naaman ward), labouring under diabetes, who, when he first came under my care among the out-patients, attracted my attention by his melancholic expression and harsh skin. On inquiry, I found that he passed but from three to four pints of urine in twenty-four hours, and the specific gravity did not exceed 1.024. It was, however, loaded with sugar. In this case the diuresis, or excessive discharge of urine, and its high density, did not appear until some weeks after I had detected the presence of the disease. I have had, for nearly four years, a patient occasionally under my care (a green-grocer residing in Goswell-street) with diabetes, who, when I first saw him, had neither diuresis nor increased density of the urine; and these symptoms did not appear until some months after, although the urine was strongly saccharine the whole time. I need not multiply references to cases of this kind, as no doubt can exist as to the presence of diabetes, for at least some weeks, in cases where the indications afforded by the general symptoms appear to be negatived by what, on a very superficial view, may be taken for a healthy condition of the urinary secretion. Of course the question of the probable presence of the sugar can at any time be solved by chemical analysis, but this involves a considerable expenditure of time as well as an amount of tact in investigations of this kind not always at the command of every practitioner; and hence the importance of possessing some test of the presence of sugar easy in its application and satisfactory in its indications.

1. *Hunefield's test.*—Place four ounces of the suspected urine in a glass exposed to the sun's rays, and add about six drops of a tolerably strong solution of chromic acid. In a few minutes, the mixture, previously orange-red, becomes brownish, and soon after assumes a bistre-brown colour, if sugar be present. These changes take place much more quickly if the mixture of urine and chromic acid be gently warmed before exposure to light. This test depends, for its action, upon the deoxydizing power of the sugar, by which the chromic acid is reduced to oxyde of chromium; for after warming the mixture, the addition of a few drops of liquor potassæ produces a copious deposite of the green oxyde. As pure chromic acid is prepared with great difficulty, I endeavoured to find some preparation which might replace it, and found that, by making bichromate of potass into a paste with sulphuric acid, and boiling the magma with not quite enough water to dissolve it, a solution was obtained which, when decanted from the crystals formed during cooling, contained enough free chromic acid, or rather of a combination of this with sulphuric acid, to exhibit all the changes with saccharine urine above described. In using this solution enough should be added to the suspected urine to give it a full orange colour, without which the subsequent changes will not be perceptible. There is an important objection to this test, which renders all its indications liable to serious fallacy, depending upon the fact that all urine containing a

normal proportion of colouring matter deoxydises chromic acid; and consequently urine, whether saccharine or not, will partially convert this acid into oxyde. This change certainly does not occur so readily in non-saccharine urine as in a diabetic state of that fluid, but still is sufficiently marked to prevent Hunefield's test being regarded in any other light than a fallacious one.

2. *Runge's test.*—Allow a thin layer of the suspected urine to evaporate on a white surface, as the bottom of a white plate, and while warm, drop upon the surface a few drops of sulphuric acid, previously diluted with six parts of water. With healthy urine, the part touched with the acid becomes merely of a pale orange colour, from the action of the latter upon the colouring matter of the urine; while, if sugar be present, the spot becomes deep-brown, and soon black, from the decomposition of sugar by the acid, and consequent evolution of carbon. This test is stated to be so delicate, that one part of sugar dissolved in one thousand of urine can be readily detected; and even when mixed with two thousand parts, the indications are tolerably distinct. Regarding the sources of fallacy to which this test is liable, I may mention the presence of albumen, which causes the acid to assume a tint nearly resembling that produced by sugar. There is also a peculiarity in its action which I have more than once had occasion to observe, namely, that if the urine is evaporated so as to be capable of being drawn into threads, it scarcely produces any change of colour, on the addition of the acid, until heat is applied. It is, however, a much more praiseworthy test than the last, although certainly far inferior to the following.

3. *Trommer's test.*—This, which is the latest test suggested for the detection of sugar, was proposed by Trommer, of Berlin, and received the sanction of Professor Mitscherlich. An account of it is published in Dr. Simon's *Physiologische und Pathologische Anthropochemie.* Add to the suspected urine contained in a large test tube, a few drops of a solution of sulphate of copper; a very inconsiderable troubling generally results, probably from the deposition of a little phosphate of copper. Sufficient liquor potassæ should then be added to render the whole strongly alkaline; a greyish-green precipitate of hydrated oxide of copper falls, which, if sugar be present, wholly or partly redissolves in an excess of the solution of potassa, forming a blue liquid, not very unlike the blue ammoniuret of copper. On gently heating the mixture nearly to ebullition, the copper falls in the state of sub-oxide, forming a red and copious precipitate. If sugar is not present, the copper is deposited in the form of black oxide. This test is founded on a fact long known, but not previously applied to the detection of sugar, of the power possessed by some organic matters of reducing oxide of copper as well as some other oxides to a lower state of oxidation. It certainly is the most delicate of all chemical tests hitherto proposed for the detection of sugar in the urine, and will readily detect it in diabetic urine, even when very largely diluted. It is important in using this test that no more of the solution of sulphate of copper be used than is sufficient to afford a decided precipitate on the addition of the liquor potassæ. If this precaution be not attended to, a part only of the black oxide will be reduced to red sub-oxide, unless a very large quantity of sugar is present, and thus the indications afforded by this test be rendered indistinct. In his remarks on this test, Simon observes, that the presence of the urea and ammoniacal constituents of the urine may in some cases interfere materially with its indications. To avoid this, he directs the suspected urine to be evaporated to a syrup, and digested in pure alcohol. The alcoholic solution being decanted, is agitated with dry carbonate of potass, and on being allowed to repose it separates into two layers, the upper consisting of the alcoholic and the lower of the alkaline fluid. A small quantity of a solution of sulphate of copper is then added, and the whole being warmed a yellow or yellowish-brown precipitate occurs in the lower layer, if sugar is present. I very much doubt whether this refinement of the test is ever necessary in

practice, and it certainly has the objection of requiring a long time and a tedious manipulation for its completion, which is quite opposed to the character of a "*test.*" As directed by Trommer, his test can be applied to urine in a few minutes, and its indications are most satisfactory,

4. *Test of fermentation.*—The development of the vinous fermentation on the addition of a little ferment or yeast to a fluid, has long been applied as a test for the detection of sugar. It was successfully employed by Professor Leopold Gmelin of Heidelberg for the detection of sugar in the animal fluids after the ingestion of amylaceous food. Dr. Christison has, I believe, the merit of particularly suggesting the application of fermentation for the discovery of a diabetic state of the urine. When a little yeast is added to healthy urine, and exposed to a temperature of about 80°, no other change occurs for some time except the development of a portion of carbonic acid mechanically entangled in the yeast. When sugar is present in the urine thus treated it soon becomes troubled, a tolerably free disengagement of bubbles of carbonic acid takes place, and a frothy scum forms on the surface of the fluid, which evolves a vinous odour. These changes take place with great rapidity, even when the quantity of sugar present is very small. If the evolved carbonic acid is collected, the quantity of sugar in the urine may be determined by measuring it, as a cubic inch of the gas very nearly corresponds to a grain of sugar. In certainly the great majority of specimens of diabetic urine it is not necessary to add yeast to excite fermentation, providing a sufficient temperature be employed. This, indeed, has been stated to be the exception, but from my own experience, I can assert that I have never yet left a glassful of diabetic urine upon a chimney-piece, when there is a fire in the grate, without having ample evidence of the development of fermentation within twenty-four hours. This test is certainly one of the best that can be employed, and is not subject to any obvious source of fallacy. It is, however, not so useful as Trommer's, as it cannot be appealed to at the moment, and requires time for the development of its indications.

Test afforded by the growth of torula.—It is a remarkable fact, that if the smallest proportion of sugar exists in the urine exposed for a few hours to a temperature above 70°, and a drop of the fluid (taken from the surface) be examined under the microscope, numerous very minute ovoid particles will be discovered. In the course of a few hours more these become enlarged, and appear as distinct oval or egg-shaped vesicles, which soon become developed into a confervoid or fungoid vegetation, identical with that which appears in ordinary saccharine fluids when undergoing the vinous fermentation. In hot weather I have detected the oval spores of the torula diabetis, as the organic production is termed, in diabetic urine within a few hours after its being passed; and for the last two years I have constantly relied on their appearance as the indication of the presence of sugar in urine. I can scarcely conceive an error arising from mistaking other organic particles for these spores, as the latter are always oval or ovoid, while all other of the organic particles developed in the urine are circular. As soon as the torula has appeared, vinous fermentation rapidly proceeds, and hence any possible inaccuracy arising from mistaking other particles for the spores becomes corrected. The advantages of this test are the facility with which its indications are observed by the microscope with an object-glass of one-seventh or one-eighth inch focus, and the certainty of any possible fallacy being corrected by the subsequent development of fermentation. It is, however, less convenient than Trommer's, in consequence of the time required before its indications can be observed. I have excluded from this list of tests that of Bouchardat, depending upon the circular polarising power of the urine, as it is difficult in application, requires an expensive apparatus seldom at hand, and moreover has its indications seriously interfered with by the colour and imperfect transparency of the urine. I have more than once had my attention directed to the probable presence of diabetes by observing on the patient's trousers white spots, arising from drops of

urine having dried upon them. These spots consist of minute patches of dry sugar, and are readily removed by brushing. This, although it cannot be regarded as an actual indication of the presence of sugar, is, nevertheless, useful as a leading question in investigating the patient's history.

In conclusion, I would remark that, excluding Prof. Hunefield's chromic test, as too liable to fallacy to be of any practical value: the other tests, arranged according to the accuracy and convenience of their indications, may be thus placed—

1. Trommer's copper test. 2. Growth of torula. 3. Development of fermentation. 4. Runge's sulphuric test.

The profession must remain greatly indebted to Trommer for putting it in possession of a test for the presence of sugar in urine, so easy in its application, and so distinct in its indications, with the additional value of requiring but a few minutes for its employment. *Med. Gaz., Nov. 24, 1843, p. 243–247.*

6.—LARGE DOSES OF NITRATE OF POTASH IN RHEUMATISM.—By HENRY BENNET, M.D., London.

[In a discussion at the London Medical Society, several eminent practitioners expressed their conviction that large doses of nitre taken by a certain patient might have been the cause of inflammation and suppuration of the kidney. The patient had taken two drachms three times a-day. Dr. Henry Bennet, whose experience in the French hospitals must entitle his opinion to respect on this subject, says that the pernicious effects of the medicine in large doses will only take place when it is given in too concentrated a form, and that one and even two ounces may be given in 24 hours when largely diluted. He says—]

When the nitrate of potass is given in a small compass, and in a single dose, half an ounce will act as an irritant poison, and occasion acute inflammation of the mucous surfaces; but if it is largely diluted a much greater quantity *may* prove innocuous, even if given in one dose, and *is sure* to prove so if administered in divided doses during the twenty-four hours. It is principally in acute rheumatism that large doses of the nitrate of potass have been given. From some researches made by one of my friends and late colleagues, M. Aran (Journ. des Connais. Medico-Chirur., 1841), it would appear that the nitrate of potass was used in large doses in the treatment of rheumatism during the last century by several English physicians, whose names I am unable to mention, not having M. Aran's paper by me. At a late discussion on the subject, which took place at the Academie de Medicine, it was stated that several Italian physicians of the modern school had thus administered it, and that twenty-years ago, in Paris, M. Kapler, physician to the Hopital St. Antoine, and M. Bagneris, physician to the Invalides, had also given nitre in large doses in the above named disease. I believe, however, that M. Gendrin, the physician to the Hopital de la Pitie, is, of all modern physicians, the one who has paid the greatest attention to the therapeutic properties of large doses of the nitrate of potass in rheumatism. After trying, comparatively, the efficacy of the various plans of treatment which are resorted to in acute rheumatism, he has given the superiority to large doses of the nitrate of potass, and for many years has had recourse to no other therapeutic agent in the great mass of his cases. Owing to this circumstance, during nearly three years which I passed with M. Gendrin, either as clinical clerk or house-physician, *all* the cases of acute rheumatism which came into the wards were treated by nitre, in doses varying from six to twelve or sixteen drachms in the four-and-twenty hours, according to the age, sex, or constitution of the patient. The number of cases which I have seen thus treated must, therefore, be great, when we consider that more than two thousand patients sojourn in M. Gendrin's wards each year. Indeed, although I have kept no statistical record, I should say that I have seen treated, or treated myself, at La Pitie, in this manner, at least, seventy or eighty persons labouring under acute rheumatism.

With women we generally commenced with six drachms, rapidly increas-

ing the quantity to eight, ten, or twelve. With men we generally began at once with an ounce, gradually increasing the dose to ten, twelve, fourteen, or sixteen drachms. In the very great proportion of cases, however, M. Gendrin did not exceed the dose of twelve drachms, or approve of its being exceeded. The salt was always administered dissolved in a large quantity of barley-water, sweetened with sugar, the proportion being about half an ounce to a pint and a half or two pints of fluid. This was the *only* beverage allowed to the patient, and taken by him as required. In this large number of cases I do not remember once seeing any toxical symptoms produced. The secretions of the skin and kidneys were generally increased, and sometimes those of the intestinal canal, but the principal action of the nitre seemed to be a sedative action, the pulse generally falling rapidly, both as regards frequency and strength. It is, no doubt, to this sedative, contra-stimulant action that we must look to explain its undeniable efficacy in the treatment of acute rheumatism. Although the narcotic action of nitrate of potass is generally admitted, it is but little insisted on. The experiments of Orfila, however, cannot leave a doubt on the subject in the mind of any one who has perused them; the death of the dogs to which nitre was administered being preceeded by giddiness, slight convulsions, dilated pupils, insensibility, and palsy. It is only in a very few instances that I remember having seen vomiting follow the ingestion of the fluid containing the nitre, and then it was but slight, and soon ceased, without its being necessary to discontinue the use of the medicinal agent. I do not recollect having once seen any symptoms of renal irritation or inflammation produced by these large doses of nitrate of potass, and have never heard M. Gendrin, whose experience on the subject is necessarily very great, say that he had met with such a case. M. Martin Solon, in the communication which he made last October to the Academy, on the treatment of acute rheumatism by large doses of nitre, does not mention having observed a single instance of renal affection in the thirty-three cases which he had treated by doses varying from one to two ounces. It cannot be said of these two physicians that renal affections may have presented themselves without their having perceived it, as they are both accurate and conscientious observers, and have both paid particular attention to the pathology of the kidneys. M. Martin Solon, indeed, is the author of one of the best French works on "albuminuria" which has yet appeared. I have myself not only administered an ounce or more of nitre in the four-and-twenty hours, for many days consecutively, in acute rheumatism, but also in puerperal fever and in other inflammatory diseases, with, I think, marked benefit, and without ever observing any toxical symptom. *Lancet, Feb.* 10, 1844, *p.* 638.

7.—COMPARATIVE VALUE OF THE DIFFERENT PREPARATIONS OF MERCURY AND IODINE, AND THE BEST MODES OF ADMINISTERING THEM.—By EDWARD OCTAVIUS HOCKEN, M.D., &c., Physician to the Blenheim-Infirmary.

Mercury is employed locally and generally, either to produce a local effect simply, or, by its admission into the system, to bring the whole constitution under its influence. The mercurial influence is induced in the system by the introduction of mercurial preparations into the stomach, or by fumigation, or by inunction. In the first method we employ the chloride, bichloride, iodide, *phil. hydrarg.*, &c., &c.

Chloride.—Calomel is chiefly useful when we wish to produce a speedy and powerful action on the constitution, as in venereal iritis or orchitis, but is less adapted to the ordinary symptoms. On the Continent it is extensively employed in tubercles of the labia, with or without ulceration, in various forms of creeping ulcers, and also in ulcerations of the throat and nasal fossæ. Desruelles says, that he cannot too much recommend this preparation, which, united to opium and an antiphlogistic regimen, may produce the most beneficial results. Ricord employs the following pills in the treatment of enlarged testicle, which remains after inflammation of that organ:—

Hyd. Chor. ℈i. Pulv. Conii, Sapon. Hisp. aa ℈ij. M. ft. pil. xxiv.

Bichloride.—M. Dupuytren ordered this remedy in small doses, one-sixth of a grain three times a-day, in constitutional syphilis, and on the Continent it still continues to be extensively used for this purpose. In some chronic cases of syphilitic skin disease, I have seen it used with advantage; but as a general remedy in secondary syphilis it requires more care, is more dangerous, and altogether is a less eligible medicine than blue pill.

Pilula Hydrargyri.—This medicine is the form most used and relied on in England, and as it is one of the mildest, safest, most certain, and most manageable preparations of mercury, it justly deserves the preference given to it. In doses of five grains two or three times a-day, it is applicable to nearly all those conditions which we have shown to be benefited by mercury.

Proto-ioduret.—MM. Cullerier, Biett, Ricord and others employ this remedy in many forms of constitutional syphilis, especially where secondary and tertiary symptoms are combined, and in primary sores in strumous habits. Cullerier says, that it is chiefly in constitutional syphilis that the proto-ioduret of mercury is administered with success. Its effects are principally evident in secondary ulcerations of the mucous membrane, cutaneous tubercles, exostoses, and chronic affections of the joints, where the other preparations of mercury have had little effect. It should always be guarded by opium, and given in half grain doses twice or thrice a-day. The deuto-ioduret is more stimulating, and consequently its dose is smaller. Either of these may be employed in friction upon tumours and indolent buboes, after the removal of all acute inflammatory symptoms.

The cyanuret and deuto-phosphate of mercury are occasionally employed. The former is said to be preferable to the bichloride, being less apt to disagree, and less readily decomposed. It is an useful external application in some skin affections, allaying the violent itching and irritation of what M. Alibert terms *herpes squamosus.*

Inunction.—Inunction by the mercurial ointment was formerly employed to mercurialize the system more frequently than at the present day. In this way the mineral is less apt to disagree with the system, especially the alimentary canal, although, when used alone, it is less speedy in its effects. In buboes, I imagine that Hunter was correct in his opinion concerning the advantages of making mercury pass through the affected absorbents. The *Ung. Hydrarg.* is used in the quantity of half a drachm to a drachm night and morning, to be well rubbed in, before a fire, on the more delicate portions of skin. Cullerier prefers using mercury by friction in primary sores; he orders from a quarter of a drachm to a drachm and a half of mercurial ointment at each friction, leaving an interval between them of one, two, or three days, with the view of not irritating either the sore or the constitution, by bringing the latter suddenly under the influence of the remedy. Ricord frequently orders the frictions to the axillæ, and they are employed in this manner by Cullerier, in certain forms of ulcerations of the mouth and fauces. He narrates two cases cured by mercurial frictions in this situation, which had resisted its employment on other parts.

Fumigation.—Fumigation of the whole surface of the body is, at present, rarely used as a method of affecting the system, but the apparatus formerly employed is still to be found in some of our hospitals. It is very speedy in its action. The remedy is, however, employed locally, and with great advantage, in some affections of the throat and nasal fossæ, directed to the part by a suitable apparatus, and more generally in some obstinate diseases of the skin. For patients who have not strength to rub in mercury, and whose bowels will not bear the use of internal remedies, it has been esteemed highly advantageous.

Topical applications.—As mere local applications, calomel, black wash (Hydrarg. Chlorid. x. vel xv. grs., Aquæ Calcis ℥i.), yellow wash (Hyd. Bichlorid. i. vel ij. grs., Aq. Cal. ℥i.), solutions of the bichloride in distilled water, the nitric oxide ointment, the nitrate ointment, the simple blue ointment, and the *Ung. Hyd. c. Ammoniaco,* are all of them occasionally ap-

plied. We select from these in proportion to their stimulating properties, adapting to the condition of the symptoms we treat. Whatever preparation of mercury be selected for internal employment, it should always be combined with opium or conium, as a certain degree of constitutional irritability almost always accompanies syphilis, which is most favourably influenced by such medicines, and, in some cases where there is sthenic inflammation or fever, antimony. M. Biett's practice has constantly furnished numerous instances where these affections have disappeared under the influence of opium alone without mercury, and MM. Ricord and Cullerier support similar views. Dr. Wallace says, that it will be always most prudent to combine the mercury with opium and antimony. No harm can result from this practice; and by it much inconvenience may perhaps be avoided. The combination of antimony and mercury has always appeared to him to render the influence of the latter more manageable, as well as more certain, while the addition of opium diminishes the irritating influence of mercury on the bowels, and subdues the disposition to an irritable state of the general system, or of the local disease. During its administration we must also carefully watch the health of the patient and the condition of his disease, and omit its further use for the time, should any unfavourable symptoms arise. The diet should be mild, and the state of the stomach and bowels attended to. Dr. Wallace recommends the patient to eat a few grains of allspice or pepper during the day, and to cover the abdomen with two or three folds of flannel. Mr. Parker says, that a nightly pill or draught of some preparation of opium with capsicum may be employed with advantage even during the period the patient is using mercurial frictions; the former not only prevents those attacks of pain, griping, and diarrhœa, which sometimes come on during a mercurial course, and materially retard the healing process, but they contribute directly to the therapeutic effects of the mercury.

The aspect of the sore is to be watched carefully, as it frequently points out when mercury does or does not agree with the system. Dr. Wallace says that it will be found a most important rule in practice to omit all mercurial treatment whenever there appears an increase of inflammation or sensibility, to arise in the local disease during the employment of mercury; for a perseverance in its use, under such circumstances, will almost invariably tend to some form of destructive action, determined in its character by the constitution of the patient. In such cases we must have recourse to emollients and anodyne applications, purgatives, rest, abstinence, and diaphoretics, with or without narcotics, and, as soon as the morbid actions which have supervened have been removed, mercury, if necessary, may be again resumed, to be suspended afresh in case of a return either of inflammation or irritability. Should an indolent condition of the sore, and absorption of the granulations, come on during mercurial influence, we must determine the cause and act accordingly.

The quantity of mercury is always to be regulated with the design of deranging the system as little as possible, and patients should be abstracted from all causes of excitement; ptyalism, &c., being considered accidental occurrences. Dr. Wallace supports the opinion, that the greater the degree of excitement or of derangement in the functions which mercury produces, the greater is the danger of its action being followed by deleterious effects, or of its ceasing to influence the symptoms of syphilis in a salutary manner. We judge of the requisite quantity from its effects on the disease, and, in general, it is necessary to affect the gums slightly, and to produce a metallic taste in the mouth; but complete salivation is rarely if ever necessary to obtain all the good effects possible in curing chancres, or preventing secondary symptoms. The cicatrization of the sore, without leaving a hardened cicatrix, should be the rule for discontinuing the remedy. When sores remain indolent, under the continued use of mercury, it may be intermitted for some time, and then resumed in some other form. It is a mistaken notion to suppose that continuing the medicine after the sore has

healed, and all induration of the cicatrix has disappeared, will protect the patient from secondary symptoms; these will appear after the fullest course, and yet occasionally they will not appear when not a single grain of mercury has been used. Another point to be borne in mind is, to examine the condition of the mouth previous to the exhibition of mercury, as a state of inflammation or ulceration, with foul breath, might lead us to attribute to the mercury what really depends on other causes.

Iodine.—M. Cullerier thinks that the effects of the iodide of potassium are less prompt than those of mercury, and that, on this account, more should be given, if the stomach will bear it. He employs grain doses of iodine with from two to four of the iodide of potassium in an ounce of water, given at intervals during the day; but he does not increase the iodine beyond two grains in the day, or the iodide beyond ten. I fully believe that the iodide is much more beneficial without the pure iodine, which disorders the stomach without benefitting the complaint. Mr. Stone, formerly apothecary to St. Thomas's Hospital, told Dr. Williams that he was called to prescribe for ten patients taking the compound of iodine and iodide of potassium for one that was taking the last medicine only.

Dr. Wallace found by experience that the iodide of potassium was the only form of the remedy which agreed, that pure iodine was a very powerful irritant, very frequently occasioning severe somptoms, while the iodide of potassium was perfectly harmless. Pure iodine, moreover, is converted into hydriodic acid in the stomach. He has seen many cases in which the tincture of iodine, both simple and ioduretted, failed to produce any favourable influence, because the irritation excited in the stomach prevented its employment in such doses as were sufficient to act on the disease, and in these very cases the action of the iodide of potassium was subsequently most beneficial. In other cases where pure iodine was employed, although the disease was cured, still it was at the expense of an injured stomach, and great emaciation. On the contrary, he asserts that he has never seen unpleasant effects result from the iodide of potassium, except from mismanagement.

Ricord employs the iodide of potassium in gradually increasing doses, commencing with ten grains dissolved in three ounces of distilled water, and given at intervals during the day, in any suitable vehicle. According to its effects so must the dose be either increased or diminished; when the remedy agrees, which it always does, if the stomach be healthy, the dose should be increased ten grains every two or three days, till it is carried to one or one and a half drachms, or even more, in the course of the day. The iodide of potassium, in full doses, when it agrees, occasions a sensation of warmth in the stomach, improves the appetite, accelerates digestion, so that many grow quite fat, and quickens the pulse. A constant effect is an increased diuresis.

When pure iodine is used, or the iodide given in excessive quantities, or from idiosyncracy of constitution, unpleasant symptoms may arise. Sometimes those are slight, and resemble a common catarrh; at others, ringing in the ears and pain in the head, or the skin may suffer from a slight pustular eruption; occasionally it disorders the bowels, or produces pain or uneasiness in the stomach, having some resemblance to pleurodynia, but seated more deeply, and an acrid dryness of the throat. Mr. Mayo says that we may sometimes correct these symptoms by adding a few drops of laudanum to each dose, and by administering aperient medicine. Authors assert that some patients experience idiotic intoxication, characterised by a slight uncertainty in the voluntary movements, some *subsultus tendinum*, heaviness in the head, a species of intellectual idleness, and sometimes slight delirium. Soreness of the gums and ptyalism are also said to occur occasionally. Mr. Mayo has heard of effects resembling murcurial erythismus. Should any of these symptoms occur in a severe degree, the dose must be diminished, or even abandoned altogether for a few days, and its exhibition recommenced in smaller doses.

Dr. Wallace found the urine to be the best test of the effects of the iodide of potassium on the system, by testing it with starch, &c. In some of his patients he remarked a great increase of perspiration—sometimes constipation, salivation, roughness of the throat, and heartburn; he found that quinine controlled the state of the throat and stomach. Delicate females, he says, sometimes lose the power of sleeping so much as is natural—a state of wakefulness often accompanied by peculiar feelings of the head, which is relieved by a purgative and interruption of the medicine. Emaciation, great gastric irritation, wasting of the mammæ and testes, &c., only occur from the use of free iodine. In two patients who had drachm doses of the iodide of potassium administered by mistake for one day, there occurred in both, sickness, soreness of the throat, colicky pains, vomiting, and purging to a slight degree, frequent pulse, and exhaustion, quickly disappearing. Several patients, while under the full action of the iodide, were attacked with an acute pain in the anterior and lower part of the left side, precisely in the centre of the superfices formed by the false ribs, accompanied by some cough, difficulty of breathing and fever. In all, the affection went off without much trouble. The medicine was omitted and subsequently resumed without inconvenience. In a private patient it produced severe indigestion, a rapid and quivering pulse, headache, and a peculiar condition of the eyes—the pupils were dilated, and both eyes in a state of incessant motion. He was soon after seized with symptoms of paralysis on one side of his body, preceded by muscular tremblings, which remained for three weeks, but eventually passed off.

Ricord states that the good effects of the iodide of potassium have been constant in his practice, but not produced with equal rapidity, in this respect differing from Mr. Mayo, who says that no medicine, where it does good, produces amendment so rapidly; therefore the propriety of continuing it is never doubtful. As far as I have observed myself, iodide of potassium never gives rise to any serious symptom, provided that it be unmixed with pure iodine, and be administered in moderate doses. Apoplectic and paralytic symptoms sometimes come on during the existence of tertiary symptoms, and these are then attributed to the mercury or the iodine which the patient may be using at the time, but it is hardly fair that the whole blame should fall on the remedy. For an adult it is sufficient to commence with five grains of the iodide of potassium three times a-day, and increase it gradually to seven or eight. Dr. Williams, while he admits that some constitutions are affected even by one or two grains, thinks that the average dose should be eight grains three times a-day; for, says he, a smaller dose can hardly be recommended, for the patient's sufferings are so intense as to require immediate relief, and consequently we ought to begin with as large a dose as his stomach will probably bear. This reasoning is not altogether conclusive, for if the dose be sufficient to excite or endanger unpleasant symptoms, we shall have to stop its use altogether for some time, and then finally resort to smaller doses, which, if used at first, would most probably have removed the complaint without any distress or delay. Dr. Williams remarks, that when mercury has been previously and unsuccessfully used, the quantity of the iodide necessary for the cure of the patient is often much greater than where none has been exhibited.

Review of the comparative value of mercury and iodine in the treatment of syphilis.—If we take a review of what has now been written, we can readily determine the comparative value of mercury and iodine in the treatment of syphilis—that mercury and iodine form the two main remedies on which the best and most unprejudiced treatment of the various symptoms and stages of syphilis mainly hinges, although neither of them should be regarded as a specific, nor can either of them, to be used well and successfully, be exhibited empirically; that mercury and iodine, when guided by observation, reason, and experience, and combined with such treatment and medicines as the profession would employ were they to lay aside all notions of something specific requiring a blind and specific use of some reme-

dial agent, they stand alone, and infinitely superior to all other medicines which the materia medica can furnish; that a modified use of mercury is adapted to nearly all the forms, but especially the indurated, of primary syphilis; that in constitutional syphilis a modified use of mercury is almost a *sine qua non* in the great majority of secondary symptoms, but is either hurtful or useful in the tertiary; that iodine is inert in almost all the symptoms of primary syphilis, with the exception of some forms of phagedena, attended with great debility and derangement of the health; that in constitutional syphilis it is a less valuable remedy in the majority of secondary symptoms than mercury, with the exception of some severe cases of pustular eruption, phagedenic throat, rupia, and secondary ulcerations of bad character, all of them marked by a cachetic and debilitated constitution; while in tertiary symptoms iodine is far more valuable than mercury, and its effects more certain and decided than in any other set of symptoms; that mercury and iodine are most advantageously combined in cases presenting both secondary and tertiary symptoms; that many forms of mercury having local or constitutional actions, are applicable to the various symptoms of syphilis, but that the mildest constitutional effect, capable of overcoming the disease, is always to be preferred; that the only form of iodine safely applicable to the treatment of syphilis, is the iodide of potassium, which should never be carried beyond moderate doses; hence, however valuable the iodide of potassium may be in some forms of syphilis, it cannot be substituted with advantage for mercury in the great majority.

Edin. Med. Surg. Journal, April, 1844, *p.* 325–332.

8.—INTERMITTENT DISEASE.—By Thomas Mayo, M.D., F.R.S., Physician to the Infirmary of St. Marylebone.

There is no more interesting subject in medicine than that of masked intermittents, under which the presence of periodicity entitles a train of symptoms, differing in every other point from those of ague, to receive with advantage the treatment belonging to that disease. But there is another view of this modification of disease, not less important. I allude to cases of the above kind, in which periodicity has been clearly established, but the treatment appropriate to intermittents is not borne.

Many years ago I was consulted in respect to a lady, who had for some time been in weak health, latterly with a progressive increase of pallor, feebleness, and emaciation; and, what was most important, a daily recurrence of pain and oppression of the head, with some delirium. The paroxysm occurred always at about the same hour, and lasted three or four hours. Her natural constitution had been good, her person strong, her temperament not nervous, her age about 43. She had undergone much treatment among other physicians; she had consulted Dr. Abercromby, of Edinburgh. On careful inquiry I found that, seven years before, she had had ague; and I was led to believe that the treatment of it had been incomplete. On this supposition I directed, after securing just action of the bowels, which had indeed never been neglected, that 50 drops of Tinctura Opii should be given at about an hour before an expected paroxysm; and that after it should have subsided, five minims of Liquor Arsenicalis should be given every sixth hour. I regret that I have not more copious notes of this case; but I can affirm that the plan was rapidly and completely successful. In a few weeks this lady was well, though weak. I should observe that a squamous eruption, which had existed for some time on the calves of the legs, disappeared also under the above treatment.

The above case illustrates the well-known effect of treatment regulated on a presumption that certain symptoms are referable to the presence of ague, where nothing but their periodicity could suggest such a presumption.

[In another case related by Dr. Mayo, the practice was not so successful, although the periodicity of the attacks was established. This was owing to a condition of brain, which rendered the remedies inappropriate, and perhaps even injurious. In answer to the question "what is that group of

symptoms, which, combined with periodicity, entitles the intermittent to be treated as an ague!" Dr. Mayo brings forward a case of Sauvages.]

"T. R." he observes, "had laboured under a quotidian for six months: after a night of prolonged restlessness, a paroxysm of epilepsy occurs at the same hour as, and in place of, the expected paroxysm of ague; and in this way, from that time, the disorder continued to run its course without any recurrence of the original symptoms." This case is valuable, not for its peculiarity, but rather as illustrating a *large* class, in which the periodical character of the disorder remaining, the treatment by bark, or steel, or arsenic, &c., is questionable. It has been judiciously observed, in regard to those intermittents in which the affection of a given organ is marked sometimes even more strongly than those symptoms which characterise the disorder as an intermittent, that the affection thus evolved or brought out by the miasma may require a special treatment, distinct from, possibly at variance with, that which its simple periodicity would suggest. In this point of view, the supposed affection may be less appropriately called a masked intermittent than a tendency to phlegmasia, brought into an active state as often as the system is disturbed by the paroxysm of the intermittent. This disturbance of a supposed inflammatory nature may not, however, terminate with the paroxysm; but the system may be brought gradually into a condition in which the intermittent type may be lost, and a continuous disorder substituted. The same discriminative tact is wanted here as in another equally indefinite disorder—hysteria—in which a phlegmasia may easily combine itself with the nervous affection: a view of the subject, I apprehend, far more frequently applicable than that suggested by the terms simulating, proteiform, &c., often used as descriptive of hysteria. The disorder which this hypothesis represented as *simulated* is really *existent*, and must receive its own treatment, modified by the judgment of the practitioner as he best may use it.

The above remarks may claim some importance in relation to the present state of intermittent disease. Ague certainly has declined in frequency. But may we not in some degree exaggerate the effect of presumed improvement in drainage and cultivation of land as the cause of this diminution? Is it not, in some degree, a simple change in the form of an epidemic? The frequently intermittent type of neuralgic disorders, their general susceptibility of benefit from those remedies which are specific in agues, is obvious. But it is scarcely conceivable that so great a change should be effected in some of the features of periodical disease as the substitution of headaches, or of an epileptic seizure, or of a nervous pain, for a rigor with its subsequent febrile accession, without ground being, at the same time, afforded for a careful revision of our practice in these varied circumstances. Nor is this consideration weakened even by the remark of Dr. Macculloch, in his valuable work, "that the use of the most energetic remedies" is, in the neuralgic intermittent, "*precisely the same* as in intermittent fever"

The questions to which an inquiry of this kind would give rise, are twofold. 1st. How far the specific remedies of ague preserve their anti-periodic influence under these altered circumstances of the disorder? 2dly. How far this anti-periodic influence is, in such cases, safe or beneficial? 3dly. What other remedies have acted with apparent benefit in such cases, as anti-periodics? *Medical Gazette, March*, 15, 1844, *p.* 790.

The dependence of apoplexy upon disease in remote organs is a subject of much interest. Its occurrence in this kind of connection with pneumonia, is illustrated in the following cases:—

A. B., a large, full, healthy-looking man, aged 54, in the spring of 1843, was brought into Carroll's ward of the Marylebone Infirmary, in a state of insensibility, and died almost immediately. It appeared that he had been employed in the workhouse in bodily labour, and seemed in good health up to the moment of his seizure with apoplexy, that morning. He was described as having the day before eaten an enormous dinner of pork, &c. He went to bed apparently well.

Autopsy.—The membranes of the brain were healthy, but the convolutions flattened. A very large coagulum, with some fluid blood, distended the lateral ventricles. The basilar artery was of great size; slight appearances of ossification in many arteries of the brain. The aorta was of great size, but healthy; the heart normal. The right lung almost uniformly in a state of red hepatization; portions from every part of it sinking in water. The left lung gorged with blood, but perfectly crepitant. The stomach very large; no solid contents in it: its walls thin: its surface having a colour exactly similar to that of coffee-ground vomiting. The other viscera healthy.

In a patient of one of my colleagues, who died on the 15th of March, I observed the following appearances on examination the next day. In the upper and anterior part of the right lateral portion of the brain the first slice removed from it disclosed a very large sanguineous effusion, connected with and filling the right ventricle, and a part of the left. Between it and the cortical substance to which it was nearly subjacent, the small intervening portion of medullary substance was softened; and in this softened substance was a large branch of an artery. Whether the patent mouth of this artery was the breach through which the blood had flowed, or whether it had been divided by the knife, I cannot say. It grated under pressure, and contained small osseous points. The heart was normal, as were the aortic valves. In the arch of the aorta were small osseous deposits. The right lung was uniformly and firmly hepatised, of a deep red colour, all but a portion of the upper lobe, which was emphysematous. All the other viscera were healthy. On inquiry, I found that this man, aged 78, of a very muscular frame for that age, had been sent into the Infirmary from the workhouse on the morning of the 12th, in a state of imperfect coma, having been apparently well the night before. Except during the last twenty-four hours of his life, he could be roused so far as to answer questions. It was ascertained that he had been in a state of constipation for many days, and the nurse of the ward told me that he was known to be a very large eater. A scruple of the Pulv. Jalapæ c. Hydrarg. Chlorid. had been given him on coming in, and afterwards a drop of croton oil. His bowels were then largely relieved, with no mitigation of apoplectic symptoms. He vomited, only in the course of the last day, what appeared to the nurse to have a fæcal character. In the first of these cases certainly, and in the latter probably, the pneumonia was antecedent to the apoplexy; in both it may be remarked with nearly equal degrees of confidence, that the pneumonia ran its course with an insidiousness equally important both as regards the subsequent apoplexy, and the course of the pneumonia viewed on its own account. It is certainly probable that in these apoplectic cases the cerebral disease was mainly induced by the prior embarrassment of the pulmonary circulation. And this suggests additional grounds of attention to the phenomena of the thorax in relation to cerebral disease. But may not some prior condition of the brain tending to congestion have rendered the constitution less sensitive under the invasion of pneumonia, and thus have obscured its symptoms?

Med. Gaz., April 5, 1844, *p.* 15.

2.—TREATMENT OF ASPHYXIA FROM HANGING.—By E. J. Shearman, M.D.' Rotherham.

[Dr. Shearman relates an interesting case of this description, that of a man who had been committed for trial for stealing a silver spoon, and who was found by the gaoler's wife apparently dead, hanging by his own handkerchief to the grate of the prison, only forty inches from the ground.]

When I first saw him, says Dr. S., he was apparently lifeless; he neither breathed, moved, nor had any perceptible circulation. He was lying on the straw bed in the prison, his face and neck much swollen, and of a blackish color, the ecchymosed mark of the cord being immediately below the thyroid cartilage, his fingers bent, and hands nearly clenched. I immediately had his head raised, the windows and door opened, and opened a vein in his

arm (in preference to the jugular vein, because the room was very dark and inconvenient for that operation), put his arm into hot water; a little blood flowed, which gradually increased in quantity as he became warmer; in four or five minutes he began to sob, and I let him bleed until I could feel the pulse beat at the wrist, and the pupil of the eye contracted completely on the application of a lighted candle. I then stopped the bleeding. As he so soon began to breathe, there was no ammonia applied to his nostrils. His breathing remained stertorous. I poured some hot brandy and water into his stomach, applied warmth to his body and extremities, kept his head raised, and left my assistant with him at half-past three o'clock, to see that he had as much fresh air and warmth as well as every other attention as the nature of the situation would allow.

At five o'clock I saw him again, and remained till half-past six; he had then rallied very much; his pulse had become firmer, but quick, 130; his head was very hot; he was exceedingly restless and unmanageable, having very violent convulsive motions in both arms and legs, and required more than six men to hold him on the bed; his breathing was still stertorous, and he could not swallow. I put on him a straight waistcoat, had his head shaved, showered it with cold water, and applied an evaporating lotion afterwards, and gave him some croton oil on his tongue, which he kept within his teeth. My assistant remained with him until ten o'clock. I saw him again at eleven, and remained until half-past twelve. His head was then excessively hot, his eyes injected with blood; he looked wildly round the room, and was so excited and strong that the strait waistcoat did not keep him in order. The croton oil had operated once on his bowels; his pulse was very quick, small, weak, and jerking, or I should have bled him again in the arm or jugular vein; twenty leeches were applied to his head; I continued the cold affusion and cold lotion afterwards, and kept him as warm as possible everywhere else. I left him, fully expecting, there was so much congestion in the brain, it would end in phrenitis or meningitis by morning. Early the following morning my assistant saw him; he had then spoken several times, was calmer, but, very suddenly, he became exhausted, and died at nine o'clock.

In this case I consider there was both suffocation and apoplexy; so much pressure was made by the cord round the neck as to prevent inspiration, so that immediately the lungs, right side of the heart, and veins would be congested; part of the venous blood sent to the lungs through the pulmonary artery would be oxygenated during the first inspiration, but, when the next systole of the heart took place, if any blood passed into the left auricle by the pulmonary veins, it would be venous, and, if thrown *out* by the left ventricle, would act as a poison to the brain, and prevent the respiratory nerves from exciting the muscles of respiration; thus, together with any pressure on the nerves and arteries in the neck, producing asphyxia. At the same time the blood was prevented returning from the brain, in consequence of the ligature round the veins of the neck, thus producing apoplexy. I, therefore, removed all pressure from the neck; encouraged the return of blood by raising the head and chest: removed the immediate congestion from the lungs and brain, by drawing blood from a vein, and kept that flowing until the muscles of respiration were excited to action sufficiently to allow the air to change the venous into arterial blood, evinced by the activity of the brain. When respiration was established, it was my next duty to relieve the congested state of the brain, which I endeavoured to do by keeping the raised head (which was very hot) as cool as I could, and the rest of the body warm, relieving the congested state of the veins by local bleeding, and stimulating the mucous membrane of the bowels by croton oil. Still the violent convulsive motions continued, which I think rather tends to point out the immediate cause of death to have been effusion at the base of the brain.

It is generally acknowledged that the quantity of blood circulating within the cranium is nearly the same under all circumstances, and that

the pathlogical condition as to *plethora* consists principally in the want of balance between the arterial and venous, the arterial blood giving the natural stimulus to the nerves of the brain, when sent in due quantity; the venous, in excess, depriving the brain of that stimulus. My old and respected preceptor, the late Sir C. Bell, says, "The head and neck may be surcharged and bloated with blood, while the brain will preserve its natural condition as to the quantity of blood in its vessels. All qualities of life are maintained through the active circulation of arterial blood in the substance of the organ. The veins of the neck being pressed upon, as by violently turning the head, by inverted position, or partial strangulation, apoplexy is induced. Here is not an accumulation of blood in the brain, but an interruption and stagnation, which, equally with the rupture of a vessel, influences the brain, and diminishes the nervous energies. On the examination of the brain in such cases, the veins of the brain are turgid to an unnatural degree, accompanied with a corresponding compression of the arterial system. The blood is accumulated in the veins, and the circulation arrested, and the activity of the arteries diminished proportionably; we see, therefrom, how sense and motion are diminished, and at length life extinguished, without rupture of a blood vessel. If this condition of the circulation could be with precision ascertained, bleeding from a vein would be preferable to opening the temporal artery." In this case this particular condition certainly existed, and I, therefore, bled from a vein.

I trust that I have now satisfactorily proved that, in asphyxia from hanging, bleeding from the temporal artery would kill by depriving the brain of its proper stimulus; bleeding from a vein, by taking off the pressure from the cerebral arteries, and relieving the congestion in the lungs, would stimulate the brain, excite the respiratory nerves, and restore animation; and that no other mode of treatment would be likely to succeed until this has been accomplished. *Prov. Med. Journal, Dec.* 23, 1843, *p.* 282.

[Mr. Bree, of Stowmarket, gives the following case in corroboration of the treatment adopted by Dr. Shearman:—]

I happened to be passing a cottage in this town at the moment its occupant, a man about sixty years of age, had been found hanging by the neck from a rope attached to the banisters of the stairs. He was instantly cut down, and at first appeared quite dead. His face was swollen, and black with congested blood, the eyes starting forwards, and the tongue protruding, presented a most horrid spectacle. The surface was cold, and the action of the heart not to be felt with the hand. I did not, however, waste much time in inquiring about symptoms. I cut up his coat sleeve, applied a bandage, and opened a vein. I then got all the hot water I could obtain, and applied it, by means of a flannel, to every part of the surface I could come at, particularly to the arm in which I had opened the vein. I at first thought all my efforts would be useless, but, by perseverance, I at last got the blood to flow from the vein, shortly after which respiration became partially established, and the action of the heart distinctly felt. I now opened the temporal artery, and took away altogether about twenty ounces of blood, with most decided and permanent relief to my patient. He gradually became sensible as the blood flowed from the vein and artery. He was now put to bed, when, continuing to treat the case as one of congestive apoplexy, I applied sinapisms to the ankles, a blister to the nape of the neck, and directed him to have an active enema. Soon after he was put to bed, however, he became delirious, and required the assistance of two men to hold him. He was now in the condition of a man labouring under *mania from drink*. This condition lasted more or less for forty-eight hours, when it gradually gave way, and the man perfectly recovered, and is alive and well at the present moment. He had been labouring under melancholia, which had caused him to commit the rash attempt at self-destruction; but he has evinced no symptom of the malady since that time, now between six and seven years.

Now, I think it will be readily acknowledged that our treatment of these

cases ought to be decided. There is not a moment to spare, and the first and obvious indication is to relieve the congestion, which *stops the circulation* of the blood. The slighest reflection must convince us that the effect of the ligature round the neck must produce congestion not only of the brain, but of the lungs also. If either one or the other, or both, of these effects, particularly the latter, continue, death must be the inevitable result. Then comes the question, is it most proper to take blood from an artery or vein? My answer to this query would be, get blood from a vein if you can; if you cannot, open an artery. *But get it by any means you can.*

Ibid., Jan. 6, 1844, *p.* 266.

10.—NAPATHA IN PHTHISIS.—By D. Wilson, Esq.

[It seems, notwithstanding the doubt with which the efficacy of naphtha was at first regarded by the profession, that it at least rises in estimation. We have reason to suspect that many of the cases in which its efficacy was at first so much praised were not really tuberculous affections, but resulted more from chronic disease of the mucous surfaces. The following case, however, shows that it may be highly beneficial in cases which are considered by eminent stethoscopists as tubercular. March 5, 1843, Mrs. A., aged 27, had been in close attendance on her husband during an attack of phthisis which had continued three years.]

She had cough, which she said had sometimes left her for two or three weeks, but it always returned again. While she sat quiet she was pretty free from cough, but on moving about, especially on ascending stairs, she was seized with it and considerable difficulty of breathing. She had no pain, and perspired only a little at night on the sternum. She felt a sinking at the pit of the stomach, with weariness, and wandering pains between the shoulders. Her pulse was weak, tongue clean, and her general functions regular. Her strength had declined much of late, and her appearance announced great langour and delicacy of constitution, the form of the chest being flat. She had dark eyes and hair, and a fine white skin. She stated that none of her family had died of consumption. I had ascertained, however, that her father died of that disease. Her mother had also informed me that Mrs. A. about seven years ago, had a severe attack of inflammation of the bowels, and ever since she has been delicate, and latterly, in the winter months, she had observed her to be troubled with a hacking cough. Percussion over the right infra clavicular space elicited a duller sound than it did over the left side, and the costal elevation and expansion were distinctly limited under the right clavicle. The respiratory murmur over the same space was harsh and tubular, with loud and prolonged expiration; the same physical signs were well marked in the right supra-scapular fossa. Percussion over the left side posteriorly, elicited a much duller sound than over the right side, and the respiratory murmur was very weak, being in spots nearly inaudible; still, on a full inspiration, the vesicular murmur was developed, although imperfectly.

Dr. Hastings examined her also on the 7th of March, 1843, and he, too, pronounced her disease to be phthisis. I afterwards sent her to be examined by two eminent hospital physicians, both authors, and acknowledged stethoscopists. The first wrote as follows: "I think there is obstruction in the left lung, most probably crude tubercles. March 7th, 1843." The second wrote: "I find collapse and dullness below the right clavicle, with decidedly tubular breath-sound and voice. There certainly are tubercles at the apex of the right lung. March 10th, 1843."

On the following day I put her under the naphtha treatment, commencing with ten drops, three times a-day, which were gradually increased until she took sixty drops three times a-day. As this dose caused some cerebral disturbance, the dose was diminished to forty drops three times a-day. She came to me once every week, evidently improving. On the forty-second day of the naphtha treatment I again sent her to the physician who last examined her, namely, on March 10th, 1843. He wrote: "There is still con-

siderable collapse and tubular phenomena, with dullness at the apex of the right lung, but the constitution seems much improved. April 21st, 1843." On May the 8th, 1843, I examined her carefully, and found the collapse at the apex of the right lung much less evident, the costal elevation and expansion being more free. Percussion produced a clearer sound; the tubular breathing was less, there being only a little roughness under the right clavicle, with rather loud expiration; the tubular breath-sound in the right supra scapular space, had nearly been replaced by a rough vesicular murmur. Percussion posteriorly elicited dullness, which was nearly alike on both sides; and vesicular respiration, although weaker than natural, was perfectly established in the left lung posteriorly. Altogether her health had improved vastly; her cough had long entirely left her, and she could ascend quickly a flight of steps without experiencing her former shortness of breath. She expressed herself as being quite well, and wished to abandon the naphtha. As physical signs of disease, however, still lingered, she was persuaded by me to continue her medicine up to the present period. When I minutely examined her on October 3d, 1843, I could only detect very slight tubular breathing under the right clavicle, with very little dullness, and the vesicular murmur was very satisfactory in those spaces where it had been formerly abnormal. She said, "I am as well as ever I was in my life."

I had two patients who gradually augmented the dose of naptha until they took four drachms in the twenty-four hours, but who after a few days were obliged to diminish the quantity. Mrs. A. still continued taking forty drops of naphtha, three times a-day, and she always feels better while taking it. She has left it off for a week at a time on two or three different occasions, but she always, about the end of the week, felt worse, being attacked with lowness of spirits and sinking at the pit of the stomach, and shortness of breath. On the second day after resuming the naphtha she feels a decided improvement in her health and a rapid relief from all her unpleasant symptoms. I am anxious that she should continue her medicine, while any signs of disease remain, although for the last six weeks I think, the physical signs have been stationary, and I believe they will remain so. I am disposed to agree in opinion with Dr. Hastings, who states at page 114 of his work on Consumption, that he believes the periphery only of crude and enlarged tubercles can be acted on by the absorbents; the central portion of the unorganised mass, being too far removed from their influence, may, therefore, remain for an indefinite period innocuous, similar to other foreign bodies, surrounded by their cysts. That the preceding views may be correct seems highly probable, and many valuable authorities might be quoted in support of them, but none can be more explicit than Dr. C. J. B. Williams, who, at page 193 of his able work on the "Pathology and Diagnosis of Disease of the Chest," says, "under treatment and favourable circumstances of air and climate, these symptoms and signs have been gradually removed; in some cases entirely, *in others partially*, but to such an extent that the patient's health has been considered, in a great degree, restored." And he further goes on to answer sceptics who may question such cases being phthisical, or, if they were so, that the lesions were entirely removed. "I admit this," he says, "but maintain that the existence of phthisis was as much proved as it ever can be in its early stage—that precisely similar cases, when neglected, commonly run a consumptive career, and we are not aware that such a combination of signs and symptoms can be produced but by lesions which have a phthisical tendency."

In almost all the cases of early tubercular disease, wherein I have seen the most rapid effects from naphtha, there has been an early, and, in some instances, enormous increase of appetite and an augmentation of weight, as has been noted in a former case of mine, published in the Lancet of June 3d, 1843, page 343. The odour of the naphtha is frequently to be detected in the urine, which is occasionally more abundant in quantity and of a

much darker colour than naturally. Some of my patients have observed the odour in their sputa. Although this occurrence must be liable to some fallacy, still I think in two instances I have been satisfied of the fact from an examination of the sputa expectorated some hours after the naphtha has been taken, and in these two cases there was softening and caverns.

In every case that I have seen, the diarrhœa, so distressing an attendant in the last stage of phthisis, has been effectually checked after a few doses of naphtha. In two very acute cases, however, which are now under treatment, diarrhœa has occasionally come on, but it has hitherto been exceedingly manageable. The profuse perspirations are within a few days almost universally arrested; however, I have seen them return in cases where there was softening and caverns. Dr. Hastings has justly observed, at page 119 of his work on Consumption, that naphtha, like all other medicinal agents, will occasionally require to be administered with other known remedies. As the early detection of tubercles is of the most vital importance, the early stage being the period when naphtha has been shown to have the most marvellous and permanent effects in phthisis, so in tubercular deposits is the early detection and treatment of scrofulous inflammation which, being neglected, is fraught with the most direful results. In those who lead an intemperate life I have observed tubercular deposition to be very common, as well as the scrofulous inflammation, and both running their course very rapidly. I question whether nature dees not often point out to us a lesson in the relief frequently following the spitting of blood; at all events, when there is pain and tenderness under the clavicles and between the scapulæ, counter-irritation, if not leeching, should be employed. I have seen the best effects in such cases result from naphtha and counter-irritation employed at the same time. To lower and build up the system occasionally at the same period is, I believe, admitted to be sound pathological practice. Counter-irritation would seem to retard the progress of the scrofulous inflammation until the naphtha, alone or combined, has effected a salutary change in the morbid action going on in the system. In two cases I have tested the superiority of naphtha over the ioduret of iron, so highly extolled in the treatment of phthisis. I have also seen the former advantageously combined with tr. ferri sesquichlor, as well as with the ammon. tart. ferri, where the latter preparations have been of little avail by themselves. Should naphtha in some cases fail, it will only be what happens every day to other well-known valuable drugs employed in other diseases. When Dr. Elliotson pointed out the value of creosote in cases of vomiting, it by no means followed that it would always act as an arrestive, which experience has proved; still no one would be so incredulous and false as to deny its general value as a medicine in cases of vomiting, &c. Why we should wonder and marvel at the therapeutical effects of ten or twenty drops of pyro-acetic spirit, or naphtha, any more than at one drop of hydrocyanic acid, or creosote, I cannot imagine. I would recommend others to try the remedy and judge for themselves; and in justice, I would urge them to try it early in the disease, and not to wait until they are satisfied of the existence of phthisis, when patients are too clearly expectorating their lungs; or to waste valuable time in the hitherto lamentably unsuccessful routine of practice, and then adopt the naphtha treatment; such a plan of proceeding, I maintain is not only unscientific but unfair; and to sceptics I would add, that until they have patiently and honestly so tested the powers of naphtha, their opinions must be valueless. Practitioners will discover, if they have not had introduced to their notice a new specific, that in a majority of the cases of the earlier stages of consumption, naphtha is a most valuable and powerful agent in checking the progress of this terrible disease. *Lancet, Nov.* 25, 1843, *p.* 250–253.

† [The following extract is from Dr. Hastings' work "On Consumption treated with Naphtha;" we give his own words, leaving the conclusion to the judgment of our readers.]

"The reasons which induced me," says the author, "to deviate from

that line of medical treatment which has so universally, and for so long a period, been in vogue, for that which I now submit to the profession, was the fatal termination of all cases, whatever was the treatment adopted, during an experience of upwards of twenty years. I was led to the conclusion, from a careful survey of the chemical analysis of tubercle made by Thennard, that it was defective, inasmuch as the composition of the animal matter, which amounted to upwards of 98 parts out of 100, had not been investigated. From the greasy nature of tubercle in its crude state, there did not exist the slightest doubt in my mind that carbon entered largely into its formation, and that its composition had a striking resemblance to fatty matter. In consequence of the loss of fat, so remarkable in the earlier stages of consumption, I determined to employ those compound agents, rich in carbon and hydrogen, which had not been previously used in medicine; not with the idea that they would make up the deficiency, which the system had sustained in the progress of the disease, but that such a change would, by that means, be introduced into the constitution as would act on the forces of the organism, at the point of departure from health, whether that took place in the stomach, blood, or elsewhere; that change tending to such an affinity in the elements within the body, that the carbon, hydrogen, oxygen, and nitrogen, instead of assisting in the formation of products which threaten life, would tend to develope those materials only which are required for the perpetuation of health and the prolongation of existence.

"I administer naphtha (pyro-acetic spirit) three times a-day, in doses of fifteen drops for an adult, mixed with a tablespoonful of water, which is proportionally decreased, according as the patient approaches youth. After the second or third day I increase the dose by about one-fourth, regulating its increase or decrease according to the absence or presence of nausea, sickness, or any other untoward symptom arising out of its use. As the disease advances, I increase the dose to forty, and even fifty drops, and administer it four times a-day, instead of three times."

Prov. Med. Jour., Dec. 23, 1844, *p.* 232.

On the use of Naphtha in bronchial affections—[Whether or not the opinion of different writers on the use of this medicine in phthisis be perfectly correct, there seems to be no doubt that in many cases of chronic bronchitis, which frequently bear a strong resemblance to phthisis, it will be found a valuable medicine. A case is related by Mr. Proctor, of Witham, in which, after an attack of acute bronchitis, difficulty of breathing, cough, with expectoration of a well-marked purulent character, and nocturnal perspiration existed. There was also great emaciation, with occasional hæmoptysis. The following medicine was prescribed.—℞ Naphth. Rect. ʒj.; Liq. Op. Sed. ʒij. M.,—of which he took fifteen drops three times a-day, in a little water. The naphtha was continued for about two months, when he reported himself well.] *Med. Gazette, Nov.* 17, 1843, *p.* 213.

11.—TIC DOLOUREUX.

[Sir Charles Bell's mode of administering Croton oil in this disease, was sometimes by prescribing powerful doses so as to act energetically on the bowels, in doses of one or two drops at a time: at other times his plan was to mix one, two, or three drops with a drachm of the compound extract of colocynth, and give five grains of this mass with ten grains of the compound galbanum pill at bedtime. As a safe and efficacious combination of Croton oil and colocynth, we would recommend to our readers a prescription of Sir Benj. Brodie, compound extract of colocynth fifty grains, hard soap ten grains, Croton oil one or two drops, to be made into twelve pills: of which one may be taken occasionally. Speaking of Croton oil, we may refer to another combination, which is very useful as an external application, and was, we believe, first used by Mr. James Allen, of York. Take of Croton oil, and solution of potassa, of each half an ounce; shake them

together till they are incorporated. Take of this solution 30 minims, rose water one ounce. Let them make a liniment, to be rubbed on any part night and morning, or even three times a-day, till blisters or minute pustules appear. Dr. Watson refers to the use of *muriate of ammonia* in the treatment of neuralgia. He says—]

There is a kind of face-*ache*, which cannot properly be reckoned as a species of neuralgia, for it does not occur in short stabbing paroxysms, nor is the pain acute enough to entitle it to the name of tic douloureux; but which is very common, very distressing, and under ordinary treatment, sometimes very intractable. It is called by some a rheumatic pain; it occupies the lower part of the face, the jaw principally, and the patient cannot tell you exactly whereabouts it is most intense. It is often thought to proceed from toothache, and bad or suspected teeth are extracted, but with no good effect. Now I allude to this, for the sake of saying that, some years ago, I was instructed, by an experienced old apothecary, that this face-ache may be almost always and speedily cured by the muriate of ammonia; a medicine that we seldom give internally here, although it is so much used in Germany. And I have again and again availed myself of this hint, and been much thanked by my patients for the good I did them with this muriate of ammonia. It does not *always* succeed; but it *often* does. It should be given in half drachm doses, dissolved in water, or in almost any vehicle, three or four times a-day. If the pain does not yield after four doses, you may cease to expect any benefit from it. In two or three instances of a similar kind that I have recently had to treat, I have found the iodide of potassium, in doses of five or six grains, work a speedy and permanent cure. This induces me to suppose that the pain, in some of these cases, is periosteal—I so judge from the ascertained efficacy of the iodide in other periosteal affections attended with pain.

Prov. Med. Journ., Oct. 28, 1843, *p.* 75.

M. Ducros recently communicated to the Academy the details of some well-marked cases of this distressing disease, which were rapidly cured by the use of strong ammonia, applied to the palate, gums, &c., with a camel hair brush, so as to occasion a profuse discharge of tears and saliva. He requested the physicians of several of the metropolitan hospitals to repeat his experiments on a large scale; and the results of their trials have been, he says, most satisfactory. (The strong aqua, or liquor ammoniæ, taken internally, will be found to be a most valuable remedy in many cases of neuralgic suffering about the face and head, odontalgia, severe nervous headache, &c. The best mode of administering it is to mix from 20 to 40 drops in a cupful of very thick gruel, and to take this at bed-time, or whenever the paroxysm of pain is present. The ammonia must be well blended with the gruel, else it will irritate very painfully the inside of the mouth and throat. It should produce a profuse salivation and lachrymation. In very severe or obstinate cases it may be applied outwardly at the same time.)

Med. Chi. Rev., Jany., 1844, *p.* 236.

[The carbonate of iron prepared extemporaneously, is strongly recommended by Mr. Mac Donogh. The formula is as follows:—]

℞ Sulph. ferri. gr. xv. Carbon. potass, gr. xxv. Aq. rosæ, ℥viiss. Syrupi. Aurant. ℥ss. M. ft. Mist. capt. coch. ij. ampl. ter quotidie.

Med. Times, April 6, 1844, *p.* 20.

[Dr. Henry Hunt in his work on Neuralgic Disorders refers particularly to the use of arsenic.]

Arsenic, he observes, operates most favourably on persons who are of lax fibre, accompanied by a languid state of the circulation, and whose secretions are rather profuse than otherwise; the urine pale and plentiful, and more especially on those whose skin is cold and moist. In persons of this description, while arsenic, to an extent far beyond other medicines, relieves the neuralgic pain, it improves the general health, and gives firmness and vigour to the constitution. When the urine is of a deep colour and scantily secreted, or when it deposits the lithate of ammonia, the tongue loaded, es-

pecially if the tip or edges of it are red; arsenic almost invariably disagrees, and aggravates the pain. But as this morbid state of the system frequently depends on, or is complicated with, disorder of some important viscus, arsenic will often agree, and relieve the neuralgic pain, after the visceral disorder has been removed by appropriate remedies. Arsenic is a peculiarly appropriate remedy for neuralgia, arising from malaria, especially if it be strictly of an intermittent character; indeed, most cases of neuralgia, in which there is distinct and regular intermissions of pain, from whatever cause the disease may have arisen, are likely to be benefitted by the class of remedies, of which arsenic is the type of the mineral, as quinine is of the vegetable; with the proviso, that the system is in a state fitted for the reception of them. When neuralgia is associated with some morbid action in the spine, with anæmia; or arises from injuries of nerves; or local irritation of nerves by diseases or unnatural growth of bone; or if it be complicated with engorgement of the liver and other viscera; arsenic is usually injurious, and I believe, seldom useful. During the exhibition of arsenic, the use of fruit and every kind of acid should be interdicted, otherwise, from the griping, pinching pains in the bowels, and diarrhœa, which they are apt to produce, it will be found necessary occasionally to omit the medicine. In cases where it has been found requisite to prepare the patient by purging and the use of calomel, arsenic will operate more easily, if a grain of calomel, for a few successive nights, or an occasional aperient be given with it.

Dr. Hunt recommends that at first from two to four minims only of the liquor potassæ arsenitis should be given three times a-day, combined with double the quantity of the compound tincture of camphor, and if acid be present, with a few grains of bicarbonate of potash; an additional minim of the arsenical solution to be added daily until some effect is produced. The arsenic may then be usually continued for a few days without further increase of the dose, and when the neuralgic pain is diminished it may be omitted altogether. It will, however, generally be necessary to resume the medicine, as the pain not unfrequently returns, when it should be again commenced in the small doses as at first. The author has met with several cases of neuralgia in which the disease resisted the effects of arsenic in solution, but yielded when the medicine was given in the solid form. In such cases, he recommends the arsenic to be given in doses varying from one-twentieth to one-tenth of a grain, well ground in a mortar, with a little black pepper, and made into a pill with a crumb of bread. It is obvious that when administered in this way the greatest care is required in the preparation and division of the medicine, as an error in either might lead to fatal results. The treatment of neuralgia by arsenic seems to require much patience and perseverance on the part of both patient and physician, and many months not unfrequently elapse before the disease is entirely subdued.

Prov. Med. Jour. April 3, 1844, *p.* 12.

13.—IMPENDING DISSOLUTION IN YOUNG INFANTS.—By Richard Doherty, M.D., Honorary Member and Secretary of the Dublin Obstetrical Society.

[There are three modes whereby, according to Professor Alison, sudden death may occur, viz., Death commencing at the Brain; at the Lungs; and at the Heart. In an admirable paper by Dr. Doherty the same phenomena are shown to take place in new born infants.]

Death, commencing at the brain, may be induced in two ways; firstly, as in compression, when the respiratory function is the first to suffer; and secondly, as in concussion, when the heart's action is directly arrested. The first mode, or that by coma, is frequently a cause of children being still-born; and, as in individuals of a more advanced age labouring under apoplexy, there is venous turgescence, bloated features, slow and impeded respiration, so in the infant, which has so suffered, those peculiarities are observable. It is quite a common circumstance, for the face, when expel-

led, to assume a purple hue; which colour, if the labour be quickly finished, soon disappears; but if from delay or any other cause the return of the blood from the head be prevented, the external engorgement continues to indicate a similar condition within the cranium, and although when delivery is completed the heart continues to beat for some time, respiration is with difficulty, or not at all established. The same consequences may be induced if the head be subjected to long-continued pressure from the action of the uterus, or squeezed through the outlet of a narrow pelvis; and they not uncommonly result from the compression produced by the forceps. After recovery from the immediate effects of this condition, a congestion of a minor degree may persist, giving rise to convulsions, or paralysis, if the proper remedies for its removal be not adopted.

[Thus if we find a child born with its face of a purple colour, bloated features, and slow or totally impeded respiration, we suppose it to be owing to the compression of the brain, and by allowing the cord to bleed a little, or apply a leech or two to the head, we frequently relieve the venous turgescence and the child breathes more freely. It is of the greatest consequence in a practical point of view to distinguish this kind of case from one of *concussion*, in which one great symptom is that the child is born *pallid* and relaxed in its limbs, &c.; or, in the words of Dr. Doherty, concussion "seems the mode of death when the fœtus, having been exposed to strong uterine action, or its head driven with shocks against resisting points, such as incurvated spines of the ischia, is at length expelled, *of a pallid hue*, with relaxed limbs, and the cord pulseless, or beating feebly; and also in cases of breech-presentation, when in consequence of powerful efforts to withdraw the head, injury is inflicted on the spinal marrow. It will be perceived I do not now allude to cases, in which the child is born delicate in its nature, but I refer to those, by no means rare, wherein, although in consequence of the mother's account of the strong motions she has felt in her child, and the loudness of the fœtal pulsations, before the commencement of parturition, we had every reason to expect the birth of a vigorous infant—yet owing to a tedious or a violent labour it comes forth pale in colour, of a low temperature, and if not quite dead, makes but puny efforts at respiration. Such cases, I think, illustrate this consequence of injury to the nervous centres; and if the proper mode of assistance be not rendered, they quickly prove fatal from exhaustion, or become the subjects in a short time of spasmodic action." In such cases it is evident that blood-letting must not be resorted to in the first instance.]

The warm bath, at a high temperature, not continued, however, too long, as it would then tend rather to depress the powers of life, frictions to the surface, ammonia applied to the nostrils, mustard to the feet, and the injection into the stomach of a little wine whey, to which a few drops of ether have been added, must constitute our immediate resources. In throwing into the abdomen a stimulating fluid, there is one point we should recollect, that too large a quantity may act injuriously, by preventing the descent of the diaphragm.

A want of unanimity exists among authors as to the best mode of employing water for the resuscitation of still-born children. My own opinions I cannot better express than by quoting the following passage from M. Hall's last work. "The most important of all our remedies in congenital asphyxia is the sudden and forcible impression of cold water on the face and general surface. The quantity of the water should not be great, but it should be applied suddenly and with force. The temperature should not be lowered; on the contrary, the dashing of the cold water should be alternated with a warm bath, succeeded by warm flannels. These too may be applied briskly and suddenly. The efficacy of the remedy is in proportion to the suddenness and the energy of the alternation. The infant may be placed in a warm bath, and be afterwards rubbed with warm flannels. The sudden dashing of cold water will be then doubly efficacious." In these directions, which have my fullest accordance, Hall differs from Edwards of

Paris, and Scholler of Berlin. But, independent of having witnessed the best effects from this mode of treatment, I consider I am justified, even in a theoretic point of view, in rejecting, as inapplicable to the present subject, Edwards' excellent experiments, whereby he demonstrated, that an animal in a state of asphyxia will die much more readily, if immersed in hot, than in cold water; because, as I shall just now show, the still-born condition is markedly dissimilar from that of asphyxia, though nominally called so. The propriety of cutting the cord under such circumstances, constitutes another point, upon which there is a discrepancy among writers. Observation leads me to side with those, who think, that once the funic pulsations have ceased, the cord can be no longer of service, but will only inconvenience us in employing the bath, and other appropriate remedies. I place no reliance on the possibility of the circulation recommencing at the placenta, for which Chaussier contends; nor can I agree with Baudelocque that the blood still flows through the vein, although the arteries may have ceased to beat. In both classes of cases, and particularly in the latter, wherein the heart's action directly fails, it may be necessary, from the delay in the establishment of natural breathing (which we know is an agent in effecting a circulation of the blood), to resort to artificial respiration, but it is a measure which should be reserved for a last resource, and never adopted until other means are evidently inadequate. I have seen in such instances, benefit result from passing shocks of galvanism through the cardiac region; however, it is very seldom that remedy can be made available, as the apparatus will rarely be at hand at the moment. It often becomes necessary even in these latter cases, for instance, where a tendency to convulsions is manifested, to apply a leech to the head, before the circulation will become adjusted; but it should be at a comparatively later period, and accompanied by the use of stimulants to support the vital powers.

The term Asphyxia, as applied to impending death in new-born infants, has been very generally misused. We constantly hear of children coming into the world in a state which is so designated; but this is manifestly incorrect. The word in its proper pathological signification, only implies a condition, the consequence of a cause, which directly arrests the supply of pure air that should enter the chest. Now in the fœtus at birth, no such cause exists under ordinary circumstances. The child is then surrounded by an atmosphere of healthful quality, whose ingress is prevented by no mechanical impediment; and breathing, if it remain unaccomplished, is so, not from any fault in the lungs and its appendages, but from a defect in the stimulus of nervous influence, upon which the muscular actions constituting respiration depend; and for this reason we should, as I have observed, resort to other measures, rather than artificial inflation, in the first instance. There is this difference too, which has not been alluded to by writers on this subject, to be observed between a child still-born, and a person of more advanced age who has fallen into asphyxia, namely, that the latter has been accustomed to the circulation of arterialized blood, while in the former, that fluid has never, as yet, been perfectly decarbonized. In the adult, the chain of events by which death is induced, when it commences at the lungs, may be stated to be: firstly, a suspension of the respiratory function, while the heart's action continues; secondly, (the circulation being thus maintained), the contact of venous blood with the nervous centres, by the deleterious qualities of which their sensibility is depressed; and thirdly, a stagnation in the lungs, through which such blood soon ceases to be transmitted. It is evident, under these circumstances, life may often be preserved, if we reverse these conditions by substituting for natural inspiration an artificial current of air, by which there may be effected in the pulmonary tissues those changes in the blood necessary to enable it to traverse them, and by which it may be purified of the noxious constituents that are acting as a poison on the system. By thus temporising, an opportunity, which speedy dissolution would otherwise deny, is afforded for the em-

ployment of remedies capable of removing the comatose condition, and in this way the vital principle may be resuscitated and sustained. But in the child which has never breathed, things are differently circumstanced. In it the nervous apparatus has not yet been supplied with blood which has undergone the process of aeration; for although some alteration is certainly produced in it, by the action of the placenta and fœtal liver, and perhaps the thymus gland, during intra-uterine existence, it preserves throughout those characters, which are denominated venous, and "both in the arteries and veins, differs in no perceptible respect from the venous blood of the adult." In the child still-born, therefore, it is not necessary to take into consideration, as an element in the production of a fatal event, the destructive effects of black blood, if conveyed by arterial vessels, so apparent in after-life (otherwise there could never be such an occurrence, as the unaided revival of an infant, twenty-four hours after being laid aside for dead); and on that account the circumstances are not so urgent as to require us to immediately adopt measures for its purgation, by beginning our efforts for restoration at the lungs, but they should be directed rather to the brain and its peripheral extremities, whose blunted sensibility is the cause of non-performance of respiration. Then, indeed, it may be useful, if breathing be delayed, to blow into the lungs, as experiment has proved that expansion and contraction of the chest, and the vital actions consequent thereon, directly aid in the circulation of the blood.

But this process, at such a time, may be aptly compared to touching the pendulum of a clock, which has been wound up, but still remains at rest; it gives the impetus, whereby the machinery—ready to maintain it own actions, once it is set a-going—is thrown into motion; whereas, to *commence* with artificial inflation would more resemble making the pendulum vibrate, before the other parts of the apparatus are in a condition to perpetuate the movements thus begun. I dwell on this point, because I believe that the latter mode of treatment is much more frequently adopted than it ought, owing, in a great measure, to the term asphyxia being thus incorrectly used—an error, which may probably be attributed to the fœtus before birth being immersed in a fluid;—and I have no doubt that injury is often, by this operation, inflicted on the texture of the lungs, so delicate in infancy.

One of the chief defects of artificial breathing is, that in it the chest is expanded by the pressure of the injected air, whereas, in natural breathing, the air enters in consequence of its spontaneous enlargement. But, besides the local injury which may be thus done, I am confident resuscitation is in many instances actually arrested by resorting to mechanical insufflation, instead of being aided thereby; for Leroy d'Etoiles has shown by experiment, that although inflation of air into the lungs after submersion, is one of the best remedies for restoring life, still if it be not managed with great skill, restoration may be prevented by the very means used. Whatever be the remedies we feel ourselves called on to employ, they should be assiduously persevered in, as wonderful recoveries are sometimes made, even after all reason for hope has apparently vanished. Death commencing at the lungs, therefore, or what should alone be termed asphyxia, is *not* of frequent occurrence in young infants. It is principally observed in the event of a woman, either accidentally, or by design, overlaying her child, or from its birth taking place unperceived; an occurrence, I would observe, peculiarly liable to happen during the stupor which attends puerperal convulsions. The relaxing treatment adopted in this complaint, renders the soft parts so yielding, that the fœtus sometimes slips away, almost without an effort on the part of the uterus.

We should remember, that in cases of suffocation the heart retains its irritability for some time after the circulation has ceased, and we should not, therefore, be dissuaded by that circumstance from resorting to artificial respiration, and diligently employing other means for restoring suspended animation. Convulsions, if they occur during, or after the struggle for life, will require to be treated by local depletion, and the other measures already pointed out.

When an infant comes into the world, the mouth and pharynx are generally clogged with mucosities, which, if not removed, may impede the entrance of air, and produce asphyxia. The same consequence sometimes results, as first pointed out by Herodoldt of Copenhagen, from the trachea and bronchial tubes being filled with liquor amnii, a fluid that the observations of Leclard tend to prove is actually respired, instead of air, by mature embryos. Such cases require the careful removal of whatever mucus may be within reach, either by the finger, or more easily, according to Gardien, with a pledget of lint dipped in a solution of common salt. When the trachea is blocked up, it is proposed by Scheele to withdraw the fluid by means of a flexible tube, to which a pump is attached. A more feasible method is to keep the head dependent, rub the thorax, and, if these measures fail, we may administer a gentle emetic. After apparent recovery, they must be carefully watched, lest they fall into what may be termed secondary asphyxia.

But there seems yet another mode, in which death, commencing in the respiratory organs, may be produced in the young infant. As death beginning at the brain results from tedious labour, so a birth of unusual rapidity may be the cause of death, commencing at the lungs, apparently by not giving them time to prepare for the performance of their new function. We are indebted to Joerg, of Leipsig, for first pointing out the injurious consequences to the child of too speedy a delivery. He conceives that in such cases, in consequence of the inferior degree of compression to which the placenta is subjected, a sufficient tendency is not given to the foramen ovale to close, nor is a necessity for respiration felt by the system. After birth then, a portion of the lungs alone becomes filled with air, while the remainder continues in a fœtal state, a condition to which he has given the name of atelektasis, and which may, among other ill consequences, give rise to apoplexy, depending on the want of duly oxygenated blood

In cases of this kind, and indeed in all, there is one general rule to be observed, never to tie the cord as long as pulsation exists in it, until respiration is well established; and never to rest satisfied in any case, until the child, by its loud cry, the "vagitus intra muros" of the Scotch law, convinces us that its lungs are fully able to perform their function. At a later period, in instances such as those I have recorded, our treatment must consist in the use of stimulants internally and externally, together with remedies directed against the apoplectic and inflammatory consequences to which the brain and lungs are both liable. In detracting blood from the chest, the best situation to apply leeches is under the axilla, as the subcutaneous venous plexus there communicates directly with the vessels of the thoracic cavity, a remark which has been made by Billiard.

Instances we sometimes see, in which, after birth, the heart of the child is laboured and tumultuous in its action, and apparently oppressed by the blood that flows upon it; and, in such cases, congestion of the surface, convulsions, and even death may ensue. They probably arise from a *tendency* to closure of the former channels not being established (for it does not appear necessary they should be actually closed for some days), or from a feeble condition of the heart itself.

The same symptoms are often, in the hands of inexperienced attendants, induced by applying a ligature to the cord the moment the first gasp is observed, and before the respiratory function has come sufficiently into action to open a new course for the circulation. They require leeching over the cardiac region, &c., for their removal. But syncope, or death commencing at the heart, in the newly-born as in the adult, is best exemplified by the effects of loss of blood. Hæmorrhagic discharges from the uterus during gestation or labour, may, it is well known, be a cause of death and premature expulsion to the fœtus, or of deficient vitality in the child at birth, even if carried to the full time. We are not to suppose this result is produced by a direct detraction from its system; for experience proves these beings, though in such close coaptation, to possess circulation so independent of

each other, that although the parent may bleed even to the extinction of her life, the fœtal vessels are not thereby deprived of their contents; a fact first demonstrated by Wrisberg in his experiments on cows in calf.

To syncope we may, with much probability, assign the imminent danger which impends over the fœtus when it presents by the feet. Under such circumstances, it is apparent the cord is very liable to suffer such compression as will instantaneously put an end to the transmission of blood through it; even more so, than when the head being engaged in the vagina, the pelvis is sufficiently roomy to permit a coil or two of it to prolapse. Now, the consequence of the funic circulation being suddenly annihilated, must be, that the supply of blood to the left side of the heart is at once cut off, just as if in the adult the pulmonary veins were rendered impervious, and those cavities, continuing to contract, speedily empty themselves of their contents, and are then disabled fram maintaining any longer the normal amount of pressure on the brain. While, though the escape of blood from the system is at the same time equally arrested, the vis a tergo being no longer in action, the capillaries do not become sufficiently distended to give more than a livid tint to the surface. The child at birth, therefore, presents all the appearances of a deep faint; and, on opening such bodies, the blood is found to have deserted the left side of the heart, and accumulated in its right cavities and the great trunks. But we have already seen that in other cases of funic presentation, the infant exhibited all the signs of congestion. Those were instances in which, from the cord being subjected to only a moderate or an intermitting force, its pulsations could be felt in the vagina becoming more and more laboured, until they ultimately ceased. There seem, then, to be two modes whereby compression of the navel string may prove detrimental to the fœtus; firstly, resulting from a total obliteration of its vessels, an almost instantaneous suspension of life, beginning at the heart; and, secondly, a comatose condition, slower in its approach, having its seat in the brain. In the same way, too, it would appear, that artificial delivery of a footling, if not dexterously performed, is fraught with a double danger to the child. Attempts at extraction, made at an improper time, may be attended by a perilous failure of the heart, and from force indiscreetly applied, may arise a concussion of the spinal marrow equally deplorable in its results. But death, having the heart for its salient point—as indicated by paleness and collapse of the countenance, cold extremities, pulse becoming gradually imperceptible, while respiration continues to the last—is still more plainly exemplified by cases wherein, either from inattention at the birth, bleeding from the cord occurs, or when the same accident attends ulceration at the umbilicus, after the navel-string has dropped.

The treatment such cases will demand, whether attended or not by convulsions, will be similar to that, which, under parallel circumstances, would be required in the adult; the observance of the horizontal position, the application of heat, and the use of stimulants (with opiates in some instances), and of appropriate sustenance, being the chief indications.

Dublin Journal of Medical Science, March, 1844, *p.* 68.

13.—DIAGNOSIS IN CASES OF PARALYSIS OF THE FACE.—By MARSHALL HALL, M.D., F.R.S., &c.

[It is of the greatest consequence in practice that we distinguish between hemiplegia of the face and paralysis of the facial nerve, and of this latter as it occurs *within* and *without* the cranium.]

I had recently, says Dr. Hall, an urgent summons in such a case. The patient was situated in a lunatic asylum, a circumstance which rather disposed the mind to expect *cerebral* disease. Besides, the patient complained of pain in the head at one time, and was apparently drowsy at another. The face was drawn exceedingly to the right side. In the first place I de-

sired the patient to close the eyelids; the right eye remained open. In the second place I inquired whether the arm or leg were affected, and found that they were not. In the third place I begged the patient to put out the tongue; it was protruded in the direct mesial plane. In the fourth place, I inquired where the patient had been sitting, and we went up stairs and placed the chair near the window, precisely as it had been occupied the day before; it was placed so as to expose the right side of the face to the draught from the window, which, with the door of the room, which was just opposite, had been open while the patient had been engaged in sewing. The weather was autumnal.

Taking these facts together, I did not hesitate to declare that the case was one of paralysis of the facial nerve; in hemiplegia the eyelids of the affected side can always be closed, though not so firmly as those of the other side. In so severe a case of facial hemiplegia the limbs are almost certainly paralyzed, and the tongue is generally affected and protruded to the affected side. Still a question was raised, whether this nerve was affected *within* or *without* the cranium; there was pain of the head and drowsiness. Now, the portio dura and the portio mollis of the seventh pair (the facial and the auditory) are placed so immediately together within the cranium that it is scarcely possible for one of these nerves to be affected without the other; *yet there was no deafness.*

I remained therefore of opinion that the case was one of paralysis of the facial nerve, external to the cranium, confirmed, as it had been, by the fact which I had almost anticipated, of the special position and exposure of the patient, as she had sat sewing in her bedroom. The issue has proved my opinion to be the just one. No affection of the cerebrum has occurred, and the facial paralysis is gradually subsiding under the usual local remedies, viz., leeches, fomentations, sinapisms, &c. But the first effect of such partial exposure to cold is sometimes paralysis, while a more remote effect is undue action. I may illustrate this principle by a most interesting case of *spasmodic tic*, interesting in many points of view. It is given in the form of a letter, written to an eminent authority on this subject:—

"Dear Sir—I saw Lady—— ——, now Lady——, before a recent visit to Switzerland, and I have this day, after my return, seen the correspondence between you and Mr. ——, of ——, on her ladyship's case. There has certainly been some misapprehension of this case, for Mr. —— speaks of the 'affection having *shifted* from one side of the face to the other;' and you say 'there is certainly a degree of *weakness* of the portio dura of the *left* side.' Now I believe there has never been a change of the side affected, and that it is not the portio dura on the *left* side which is weakened, but that of the *right* which is irritated, so producing spasm. This view I will explain:—The probable cause was exposure to a severe cold wind. When the affection first took place, the face was drawn towards the left side, but the eyelid of the right was paralyzed, the eye requiring the application of the finger to close it, and being more open than the left, the left being in its natural state. After a time the face was drawn to the *right*, and now the *right* eye, which gaped before, became *less open* than the left, but the *left* was *still* in its *natural* state. In a word, the change was from *paralysis* to *spasm*, but it was of the same side—*always* the *right*; and now it is not *weakness* of the *left* portio dura, but *irritation* of the *right*. The *right* eye was always *morbidly* affected, first by *parslysis*, now by *spasm*; the *left* has *always* been *natural*. The *sensibility* has always been *unaffected*. At this time everything is *spasmodic*, and that of the right side of the face. The right eyelid is usually more closed than the left, and when closed by an act of volition it is drawn a little awry (to the right), and during laughing it is spasmodically closed without an act of volition. The whole right side of the face is spasmodically drawn to the right on laughing, or speaking, or *eating on the right* side of the mouth, and a *new dimple* is *formed* on the right side of the chin. All is normal on the *left* side, which is only drawn a little by the spasmodic action on the *right*: the *eyelid* is

natural, and mastication is naturally performed on this side, except from the decayed state of the teeth. It is plain that, whatever the cause might be, and I suspect it was exposure to severe cold, it first induced that change in the portio dura of the right side which produced paralysis, and which, being *diminished*, is now characterised by spasm. It is the *right* and not the *left* side, therefore, to which our remedies must be applied, if applied near the motor nerve immediately or remotely the seat of the disease. I have seen several cases beginning with paralysis and proceeding to spasmodic affection of the portio dura of the same side. I have also seen *one* unequivocal case of paralysis affecting successively the portio dura of both sides, after an interval of several years.

"I am, dear Sir, yours, &c. MARSHALL HALL.
" Manchester Square, Sept'r. 20, 1840. To —— ——."

From the misapprehension in regard to this affection, to which I adverted in the above letter, the remedies were actually prescribed to be applied to the unaffected side of the face! This patient married, became pregnant and miscarried, with convulsions, about the eighth month. It was then asserted, but without the shadow of a reason, that the facial paralysis had been of cerebral or intracranial origin; but it *was* certainly an affection of the *facial nerve*, and there had been no *deafness*, and there was no post-mortem examination; so that there are positive and negative facts which militate strongly against such an opinion, and the only positive fact which might have been adduced in favour of it was neglected. The puerperal convulsions were, therefore, a sad coincidence, but a coincidence merely, with this paralysis of the facial nerve of external origin. No case can display more lucidly the importance of the diagnosis in question—a diagnosis which at once suggests the proper remedies and the prognosis; and in no case are these questions more important in themselves. The questions whether we should deplete the system, or treat the affection as one of local origin, and whether that affection involves danger to life or limb, are surely most momentous.

It is well that other nerves, motor, and sentient, are not, like the facial, exposed by a course near the surface to the paralyzing influence of cold. I have seen a case of paralysis of the sentient nerves of the face, arm, and leg, of the right side, involving peculiar symptoms, and not easily distinguished from hemiplegia, proceeding from such a cause; and Larrey speaks of cases of paralysis induced by exposure to intense cold during the campaign in Russia. But the discussion of this subject must be postponed to another opportunity.

P. S. Since these remarks were written I have again seen the case first sketched; the paralysis is much diminished, but a little spasmodic affection has taken its place. *Lancet, March*, 30, 1844, *p.* 38.

14.—DIETETIC AND MEDICINAL TREATMENT OF GOUT AND RHEUMATISM.—By ROBERT BENTLEY TODD, M.D., F.R.S., &c., &c.

Three objects demand especial attention in the treatment of the gouty diathesis. First, to invigorate the digestive organs, and prevent the under formation of free acid (lactic acid), in the stomach. Secondly, to promote the elimination of the gouty matter, through the various excretions. Thirdly, to obviate the tendency to the formation of lithic acid.

It is, however, a narrow view of this important subject which would refer a lithic diathesis simply to the influence of food, overlooking that which I have called a fundamental action in the physiology of nutrition, namely, *that the blood is fed from a two-fold source*, from the chyle, and from the disintegration of the tissues, or what Dr. Prout calls their secondary destructive assimilation. Magendie, and perhaps also, Wilson Philip, have erred in this respect, for they have looked only to one source of lithic acid, namely, to the chyle furnished by the food, and they have disregarded en-

tirely its formation by a secondary process. Liebig, on the other hand, has attended exclusively to the secondary formation of lithic acid, and denies altogether that the food has any immediate share in its production. He affirms, indeed, that non-azotized food favours its appearance in the urine by interfering with the action of that agent (oxygen), which causes the decomposition of lithic acid into urea. If it be admitted that lithic acid can be formed from the decomposition of the albuminous tissues, there can be no good reason for denying that it may be likewise derived from an excess of the albuminous matter of the chyle taken into the blood, beyond what is required for the nutrition of the tissues.

The truth appears to be, that the development of this substance may take place from the imperfect assimilation of the food, quite irrespective of the ulterior changes in the system; or it may occur from certain changes in the system, whatever may be the nature of the food. Of these facts it is most important that practitioners should be fully cognisant. How constantly do we find that a full meal, of whatever nature, produces a copious development of lithic acid, or that a single indigestible substance, in even a moderate meal, will have the same effect! And this excess shows itself in the urine excreted within a few hours after the meal—a space of time too short to warrant the supposition that it is derived from the metamorphosed tissues; in other words, it seems most improbable that a temporary indigestion could within two or three hours so accelerate the metamorphosis of the muscular and other albuminous tissues, as to give rise to the excretion of so much lithic acid. Indeed, the distinction which has long been made by practical men, between the *urina cibi* and the *urina sanguinis* (the former always exhibiting more proneness to deposit), indicates, at least, that the indigestion of food has a certain immediate influence upon the urinary excretion. How frequently, on the other hand, does it happen that the slow and silent progress of some deep-seated malady will induce a development of lithic acid to an enormous extent, quite irrespectively of the food taken; in no class of cases is this more conspicuous than where there is chronic disease of the liver.

The most remarkable example of this kind that I ever saw, was in the case of a gentleman, aged sixty, of robust frame, and all his life of the most active habits, who had never previously suffered from disease of any kind. In the month of August, this gentleman began to pass lithic acid gravel, with a little bloody urine; he complained of slight pain in the back, corresponding to the base of the right lung, whence the breathing was not quite so clear as in the opposite side. This pain yielded to local treatment; but he went on from this time until his death, passing enormous quantities of lithic acid, both as the amorphous deposit of lithate of ammonia, and in the shape of grains and pisiform masses of pure lithic acid. He gradually emaciated to the most extreme degree, without exhibiting any symptom which could give a clue to the more accurate determination of his disease; his sole complaint was of weakness, and of occasional pain in the right side, slightly impeding the action of the diaphragm. His countenance assumed all the characters of malignant disease, and he died in about eight weeks from the commencement of his illness. Unfortunately I could not obtain an examination of the body; but Dr. Bright, who frequently saw the patient, agreed with me in viewing it as an instance of deep-seated, malignant disease, probably affecting the base of the right lung, or the diaphragm.

In another case I was led, by the long continuance of similar lithic deposits, unaffected by changes of food or medicine, to search for malignant disease; this was in an hospital patient, a woman of fifty years of age. For some time she manifested no symptoms but emaciation, slight pain in the back, and copious lithic deposits of the amorphous as well as granular kind. When emaciation had greatly advanced, I was enabled to feel a hard deep-seated tumour, connected with the head of the pancreas, or the spige-

lian lobe of the liver; and the coming on of jaundice shortly before her death, confirmed my suspicions as to the seat of the tumour.

In the eleventh volume of the *Medico-Chirurgical Transactions*, the late Mr. Earle relates some cases which show that irritation of the kidney from disease of its substances, or in neighbouring parts, may give rise to an increased secretion of lithic acid.

The conclusion respecting diet, which a fair and candid review of all the phenomena of nutrition, and of disease, would lead us to adopt, is, that that diet least promotes the lithic acid diathesis, which is most easily assimilable. Small quantities of animal food, which should be regulated by the physician according to the necessities of each individual, with smaller quantities of vegetable food, appear to answer to this description, and especial care should be taken to avoid those saccharine and other vegetable products, which may be prone to the acetous fermentation, and may therefore favour the development of lactic acid in the stomach and duodenum. Recent chemical discoveries appear to me to simplify greatly the solution of the question respecting diet. From these it appears, that bread, and the ordinary vegetables in use in temperate climates, contain the same azotized nutrient principles as animal food, and are therefore, of themselves sufficient to support nutrition. But to obtain the same amount of nutrient material, the ingestion of a much larger quantity of food is necessary, than of animal; and in the latter there is much less complication of indigestible matter than in the former. Hence there seems good reason for adopting the opinion, that an animal diet, *regulated as to quantity*, is that most likely to conduce to the establishment of a healthy digestion.

Treatment of the Paroxysm of Gout.—Our object is to relieve the sufferings of the patient as speedily as possible, without interfering with the proper elimination of the gouty matter. In the selection of means we must remember, that in most cases, the gouty paroxysm tends to a spontaneous cure, and is in itself a means of eliminating gouty matter from the system. "These facts should lead us to be cautious; *first*, As to depressing the system too low, and so, by impairing nutrition, favouring the development or accumulation of new gouty matter; and, *secondly*, As to ascribing to remedies, that which the natural progress of the malady has effected."

Moderate purging is very useful. Drastic purgatives must be avoided; as by irritating the intestinal canal, gouty matter might be attracted to it from the external parts. The most suitable medicines of this class are blue pill, and salines, such as Epsom salts, to which an antacid may be added. Dr. Todd believes, that much of the discredit attached to colchicum, is to be traced to the careless and indiscriminate manner in which it has been employed. He therefore suggests for the guidance of practitioners, the following *rules for the use of Colchicum in Gout*:

1. Colchioum should not be given in the asthenic form of gout.
2. Colchicum should never be given at the onset of a paroxysm, nor until the bowels have been duly acted upon by mild purgatives.
3. The first doses of the medicine should be very small; they may be gradually increased.
4. Colchicum should be always administered at first uncombined with any other medicine, until the practitioner has satisfied himself that it is not likely to disagree with the patient. And indeed there is always a disadvantage in administering this medicine in combination with others; since it may become difficult, if not impossible, at times, to determine what effects should be ascribed to the colchicum, and what to the other ingredients.
5. It should not be administered so as to excite nausea, vomiting, or purging. These effects should be regarded as indicative of the unfavourable operation of the medicine.
6. Colchicum may be regarded as acting favourably, when, under its use, the urine is increased in quantity, a more abundant bile is discharged;

when the fæces, though solid, are surrounded by mucus, and the skin secretes freely.

7. The effects of colchicum should be carefully watched, as, like digitalis and other medicines, it is apt to accumulate in the system.

The use of this medicine seems chiefly applicable to the sthenic form of gout, which occurs in robust constitutions, and in the prime of life; but it is almost inadmissible in persons advanced in years, who have had several attacks, and in whom the malady would seem too deeply-rooted, to be influenced by the temporary administration of this medicine.

In the Rheumatic Diathesis.—If the joints suffer much, they may be best treated by local stimulation, or counter-irritation. A strongly stimulating terebinthinate liniment is often beneficial; but on the whole, nothing is so useful in chronic rheumatic states of the joints as blisters applied in rapid succession. In some instances where there has been much pain and swelling, the application of a few leeches will almost always do good. I learn from Mr. Busk, who has had great experience in the treatment of those painful articular affections connected with gonorrhœa (gonorhœal rheumatism), that blisters are an invaluable remedy in them, even from the first, and this accords with my own more limited experience. Doubtless in the case of rheumatic joints, blisters act in a similar way, by attracting the morbid element from the articular textures. I have lately employed pretty extensively, and with unquestionable benefit, the local application of iodine to the affected joints, for which purpose we may employ either the tincture of iodine, or a stronger compound, which is used at the King's College Hospital, and is called Iodine paint, the formula of which is as follows:—

℞. Iodinii, gr. lxiv. Potassii Iodidi, gr. xxx. Alcohol, ʒj. M.

The mode of application is by painting the part freely with a camel-hair pencil. More or less smarting is produced, and frequently vesication, or an herpetic eruption may come on. The painting may be repeated as often as circumstances may demand. It is extremely useful where any effusion has taken place into synovial membranes or sheaths.

General Treatment of the Rheumatic Fever.—The natural history of the disease tells us that the paroxysm rarely terminates in less than ten days; and seldom lasts longer than six or eight weeks. The mean duration of disease may be rated at from twenty-one to twenty-eight days. A mild attack is over in a fortnight; a severe one lasts fully six weeks; an ordinary one, three or four weeks. Now, on comparing the statements of authors, and the duration of the disease under their different plans of treatment, we do not arrive at a conclusion different from that which I have stated. Dr. Haygarth, who relied chiefly on the administration of bark, gives a mean duration of not less than a fortnight; but it is impossible to derive any accurate conclusion from his incomplete, although elaborate tables. From an analysis of the cases related in Chomel's work, I obtain four weeks as the mean duration from the first seizure to the convalescent state. In the average of my own cases in hospital practice, the patient did not become fairly convalescent under four weeks. According to the table in Dr. Macleod's book, of two hundred and six cases, sixty were cured in from one to two weeks; one hundred and thirty in from two to six weeks; sixteen required from seven to sixteen weeks. A careful analysis of Bouillaud's thirty-six cases leads me to assign four weeks as nearly their mean duration, although he boasts of cutting short the disease by copious bleedings in six or seven days. M. Bouillaud, however, considers his patients convalescent as soon as some relief is obtained to the acute affections of the joints; and this he says takes place in from four to six days from the commencement of treatment; yet a perusal of his cases will show that in all, the patient was far from being cured of rheumatic fever, after his so-called period of convalescence, and that several had speedy relapses after that time.

Those channels which are obviously the most favourable for the elimina-

tion of the rheumatic matter, are the skin, the bowels, and the kidneys; hence the use of sudorifics, purgatives, and diuretics is indicated. Of sudorifics, Dover's powder is among the best, and is sanctioned by the experience of many years; pure opium answers the double end of promoting diaphoresis while it procures rest and relieves pain; or the nitrate of potash may be given either in combination with opium and ipecacuanha (a nearer approach to the original formula for Dover's powder), or in solution along with minute doses of tartarized antimony. I am not in the habit of exceeding five or six grains of the nitrate of potass with one-eighth of a grain of the tartar emetic (to which, if there be nausea, a few drops of tincture of opium may be added), every four or six hours. The practice of giving very large doses of nitre, tried formerly in this country, and lately revived in France, does not appear to have any decided influence upon the mean duration of the disease. The administration of opium, however, is of great importance: it must be given in large doses, and is borne well by the patient. A good opiate should always be administered at night, and when there is much suffering, two or three doses should be given throughout the day. The irritative character of rheumatic fever is strongly in favour of this medicine.

The purgatives which seem most applicable are those which produce copious watery evacuations. The combination of sulphate and carbonate of magnesia answers very well, the addition of the alkaline earth serving to neutralise some of the free acid which is so abundantly secreted. Colchicum is useful as a purgative, and if employed in large doses, exerts a powerful action on the intestinal canal, but the employment of it is not devoid of serious objection. The tartate of potass is also a useful purgative. The best mode of promoting diuresis in this disease is to allow the patient to use simple diluents freely; to these no other limits need be put than those which his own sensations will dictate. Any more direct stimulants to the kidneys would probably excite those organs too much. The saline effervescing draughts are agreeable and cooling, and have the additional recommendation of serving for the neutralization of the free acid, in its passage through the kidneys.

The objection which has been urged against local applications to the affected joint during a paroxysm of gout, does not apply to rheumatic fever. In the latter disease the morbid element is escaping at many places, in the former at a single joint; if we disturb its attraction to this one joint in gout, it may fly to a new one, or to some internal viscus. These risks are obviously wanting in rheumatic fever, as the disease is more generalized in its effects. And experience teaches us that the greatest relief may be obtained by local bleeding in this malady. When the joints appear to suffer much, the application of leeches (for the patient can seldom bear cupping) is called for, lest the articular textures should suffer; and the bleeding from a dozen leeches is almost always productive of immediate relief to the pain and swelling. As, however, local bleeding does not prevent a joint from being revisited by the rheumatic irritation, the employment of it in ordinary cases, and as a general practice, is not to be recommended. You may apply leeches to-day to a joint, to-morrow it will be free from pain, and the next day it may be swollen and painful again. If the pain and swelling, both or either, be great, and such as to excite apprehension for the ultimate integrity of the textures, then the application of leeches will be really useful, and should not be deferred.

When the articular affection is disposed to be chronic, and the rheumatic matter appears to linger about a joint, local bleeding may be of essential service. Its timely use, in such instances, may save the patient from a tedious convalescence, if not from a chronic rheumatism. Local bleeding, in the earlier stages of the rheumatic paroxysm, has the additional advantage of contributing to relieve the general fever in a manner not likely to injure the constitution. Warm fomentations or poultices often give considerable relief, and if agreeable to the patients, they may be used with

safety. It has been proposed to foment the joints with a solution of an alkaline salt, as of soda or potass. I have seen this practice tried, but did not perceive any superiority of the alkaline fomentation over that of plain water.

I am strongly inclined to believe that counter-irritation by blisters to the affected joints will be found a very useful practice in the severer cases of rheumatic fever, even in the acute stages. It will generally, however, be advisable to precede the application of blisters by that of leeches. My experience of this practice has not been sufficiently extensive to warrant my speaking confidently concerning it; but I think it deserves a more extensive trial than it has yet received; for it is highly reasonable to suppose that any irritation of the surface, acting on the principle of revulsion, must relieve the deeper-seated tissues.

The Heart Affection.—Its Treatment by Mercury, &c.—Any change in the character of the pulse, the occurrence of intermissions in it, a sudden diminution or increase in its frequency or force, an irregularity in its rhythm, ought at once to awaken the suspicions of the physician as regards inflammation, either within, or on the surface of the heart. Above all, he should be most careful in his endevours to detect the first indications of a change of structure on the outer or inner surface of the heart, as denoted by the presence of a friction-sound, or a bellows-sound. The occurrence of any of these signs is, in my judgment, a sufficient warrant to justify his having immediate recourse to local bleeding over the cardiac region. A large number of leeches should be at once applied; or a good quantity of blood should be taken by cupping. I have no doubt that by prompt practice of this kind, inflammation of the heart may be checked at its commencement; and as this is the time when the interference of art may be the most efficacious, it is plain how much the future comfort of the patient depends on the vigilance and sagacity of his medical attendant at this juncture.

My experience leads me to value very lightly the efficacy of general bleeding in inflammation of the heart. I have never seen an instance in which it unequivocally did good; and the prevalent custom of combining local depletion with venesection, shows that practitioners do not usually place much reliance upon it. Immediately after local bleeding, a large blister should be applied, not exactly over the cardiac region, but a little to the right of it, in order to allow space for the application of more leeches if necessary. The blistered part should be afterwards dressed with mercurial ointment, the cuticle having been previously freely removed, so as to expose a large surface, from which an abundant secretion may be provoked. If there be much irritability, opium should be freely administered; and, if a friction-sound or a bellows-sound be present to indicate that the products of inflammation have already begun to be formed, then mercury, combined with opium, should be given in doses sufficient to get the system under its influence as quickly as may be done without depressing the patient too much. There is a two-fold object in administering mercury under these circumstances; first, to check the effusion of lymph; and, secondly, to promote the absorption of that which has been already poured out. When these constitutional effects of mercury can be quickly induced, these important objects will generally be attained.

Cases now and then occur in which large quantities of mercury are given ere the mouth becomes affected, or in which it seems impossible to produce salivation; are we to infer that in such cases mercury does no good, and that it would have been better omitted? It appears to me that there are two states in which, although inflammation exists, mercury is slow to produce its constitutional effects. The first of these is when the fever is of a highly irritative character, the nervous system being in a state of excitement or "alarm;" this occasionally happens in pericarditis, and may be brought on by the too frequent use of the lancet. Mercury is almost inadmissible in such cases, for it increases the general irritability; if administered, it should be given sparingly and conjoined with opium in large doses.

The second is, when a very extensive inflammation exists; under these circumstances mercury appears to me to act as opium does in certain diseases: in tetanus, for instance, what enormous doses of this drug will be borne with little or no apparent narcotic effect! What large doses of opium may be given in rheumatic fever itself! Such quantities could not at all be borne by the system in health. In pneumonia we give tartar emetic freely, it acts favourably upon the pulmonary disease, without perceptible effect beyond the resolution of the pneumonic inflammation; yet, if we gave as much to a person in health, nausea and vomiting would immediately ensue. Tonics likewise may at times be given to an enormous extent without any exciting effect on the system; and so also with stimulants, a man in typhus fever may take with impunity in a short time, as much wine and brandy as would intoxicate him in a state of health. I believe the same principle holds with respect to mercury; and that in some cases it acts wholly on the diseased organ, and produces none of its usual constitutional effects. We are not to infer that in such cases mercury does no good, and is inadmissible; on the contrary, if no untoward effect is produced, we should persevere with the use of it, even after the more acute symptoms have subsided. The rate of action of the mercury may even assist us in forming an opinion as to the extent of the inflammation, a tardy action indicating that it occupies a considerable surface; and it may also aid our prognosis, for the appearance of the affection of the mouth within a moderate time (two or three days) augurs well, while a difficulty in producing ptyalism must be considered inauspicious. *Lond. and Ed. M. J. of M. S., Dec.*, 1843, *p.* 1084.

18.—ARGUMENTS AGAINST LIEBIG'S THEORY OF GOUT.—By Robert Bentley Todd, M.D., F.R.S., &c., &c.

It is affirmed [by Liebig and Jones] that the presence of lithic acid in the system is due to the deficiency of oxygen; that in the natural state, under the influence of a due supply of oxygen, this substance nearly or altogether disappears, being decomposed by oxygen into urea and carbonic acid; so that in healthy urine its quantity is very small, and in the carnivorous animals, which are largely supplied with oxygen, it disappears altogether. The free acid which exists in the system, is said to be lactic acid derived from the stomach, and it is further added, that this and other non-nitrogenous compounds present in the blood, attract the oxygen, and hinder its action upon the lithic acid.

Were this theory true, two conclusions must flow from it. First, that under all circumstances where oxygen is abundant, lithic acid shall be absent, and urea exist. And secondly, where oxygen is deficient, lithic acid must be present, and urea be deficient; or that in either case, the quantities of the lithic acid and urea must be in an inverse ratio. Now, it appears, from the analysis made by M. Becquerel of the urine in various diseases, that such a relation of quantity between these two important elements does not exist. He finds that in many cases of fever, the quantity of urea is very slightly diminished below the natural standard; and that the normal proportion of urea to lithic acid is but little changed. While in chlorosis and anæmia, diseases where the deficiency of oxygen is obvious, lithic acid, which ought to be increased, is diminished, and in the former of those diseased states it is reduced to a minimum, and the urea is diminished also.

In Bright's disease, in which the urea is so often diminished *in the urine*, the lithic acid ought, according to Liebig, to be increased; but such is certainly not the case in the great majority of instances; on the contrary, it is very generally much diminished. And, when we reflect on the anæmic, cachectic appearance of the class of persons who are for the most part the subjects of this disease, we cannot fail to perceive that their system is greatly deficient in oxygen; a condition, which, according to this chemist, ought to have left a considerable quantity of lithic acid undecomposed.

Again, according to this theory, the existence of the lithates is incompatible with that of the phosphates in considerable quantity in the same urine. For the production of the latter, if Liebig's views be correct, is due to the very cause which ought to occasion the disappearance of the former, namely, an abundant supply of oxygen But I can aver, from my own experience, that phosphates and lithates may co-exist in urine, in great abundance. In such urine it sometimes happens that the lithates are not deposited on cooling; but the phosphates are precipitated as a cloud, which becomes greatly increased on the addition of ammonia, or by heat. Or, if instead of ammonia, a few drops of nitric acid be added, a copious precipitate takes place of lithate of ammonia, which is readily dissolved by heat.

Moreover, an excess of urea, and an excess of lithic acid ought not to exist together; but that they may so exist, I have positive proof in the urine of a patient now under my care, which, with a specific gravity of 1030, deposits lithate of ammonia copiously, and yields nitrate of urea in large quantity immediately on the addition of nitric acid.

It is remarkable that the two classes of animals, which are most highly oxygenated, are deficient in urea, and secrete lithic acid in abundance. These are birds and insects. In the former animals, as Dr. Golding Bird has remarked, respiration is very perfect; their animal heat is superior to that of man, and their hearts pulsate much more quickly; their system must, therefore, be freely supplied with oxygen. In them, therefore, no uric acid ought to escape unchanged; yet, the truth is, that the acid is excreted nearly as abundantly as in serpents. "The semi-solid urine, which escapes from the cloaca of the jackdaw, parrot, and many other birds, contains a large proportion of urate of ammonia."

In insects the lithate of ammonia may be seen in the Malpighian vessels, or kidneys, as many observers have found, and as I can affirm from my own observation. And, I may add, that the case of insects is still more opposed to the doctrine of Liebig than that of birds, for in them the oxygen is brought to every part of the body by the numberless ramifications of the trachea, and even to the walls of the tubes, by which the excretion is effected. In the present state of our knowledge, it seems impossible to determine the correct theory of gout. It appears highly probable, however, that the peculiar gouty matter is in the first instance derived from the stomach or duodenum, inasmuch as a disturbance of the functions of those parts is an invariable antecedent or accompaniment of the fit. And as such derangements are generally accompanied with an undue development of lactic acid, an acid nearly resembling the acetic in its constitution and properties, it seems fair to conclude that it may be the primary disturbing agent. Again, the habits of life of those, in whom the gouty diathesis occurs, are such as to favour the generation of lithic acid. And lastly, as the liver is deficient in its action in those cases, it may be conjectured that soda is imperfectly eliminated from the blood, and may accumulate in the circulation to unite with lithic acid, wherever that may be formed in the secondary destructive assimilating processes.

The cases which I have adduced, of gout appearing in low states of the system, show that the morbid element of the disease may be present, independent of lithic acid, for in them this substance either did not abound, or did not exceed the normal quantity by a greater amount than may be at any time caused by a slight general disturbance. It appears to me that we must look for the matter of gout as a compound, derived from a product of unhealthy action of the stomach and duodenum, which being absorbed into the blood, unites there with some element of the bile which has been suffered to accumulate through the defective secretory action of the liver.

As the same causes which induce these two states, will give rise to a lithic acid diathesis, we find it usually associated with them. But the former may exist without the latter; and, therefore, gout may show itself without the occurrence, at the same time, of a preternatural quantity of lithic acid. An organic compound, such as I have conjectured, may exist

in the blood in variable quantity, and for an indefinite period, contaminating the whole frame and the offspring from it, and may thus give rise to the gouty diathesis. Or, this matter, ever present in the system, may be liable to periodical accumulations, which can only be got rid of by periodical paroxysms. *Lond. and Ed. M. J. of M. S. Dec.* 1843, *p.* 1083.

16.—PAIN OF THE LOINS.—By Dr. Oke, Southampton.

Perhaps there is no symptom more commonly met with in practice than pain in the loins, which is usually and at once attributed to bile, gravel, or rheumatism; but as it may be also derived from other causes left out in a hasty decision, I shall enumerate them, and endeavour to point out the symptoms by which each may be distinguished. Pain of the loins may be derived from the muscles, from the liver, from the duodenum, from the kidneys, from the colon, from the uterus, from the aorta, from the spine, or from matter collected on the psoas muscle independent of spinal disease. In order to arrive at its true cause, we must endeavour to ascertain what function is principally involved, which will at once lead us to it.

If the pain be rheumatic, it will be increased by pressure, and by the slightest action of the muscles affected. There will probably be also rheumatism in other parts of the body, the system will not evince much disorder, the urine will be high coloured, and deposit a lateritious sediment.

If derived from the hepatic function, the pain will shoot upwards along the splanchnic nerves to the scapulæ; the alvine evacuations will be either deficient in, or exuberant with, bile; or show a morbid quality of that secretion; the urine will have a bilious tinge; there may be congestion of the hæmorrhodal veins; and the spirits will be depressed.

If from the duodenal function, three or four hours after a meal the pain will be aggravated, shooting through towards the right side of the abdomen, and remaining till the food has passed into the jejunum. Dyspeptic symptoms will prevail, and there will frequently be painful pustules breaking out about the face. I have lately met with a case in which the boils were extremely annoying.

If from the kidneys, the pain will shoot down the course of the spermatic nerves toward the round ligament in the female, and toward the testis in the male, which will often be retracted by the action of the spermatic nerves upon the cremaster muscle. There will be more or less irritation communicated to the mucous membrane of the bladder. The urine also will be diagnostic in this instance; it may deposit mucus, calculous matter, blood, pus, or albumen, according to the nature of the case; or it may be otherwise morbid in its constitution.

If from the uterus, the pain of the back will arise either from disordered function or disease of that organ. In the former case the pain will be of a neuralgic character, will return in forcing paroxysms extending around the hips and hypogastric region, will be attended with hysteria, and often with increased quantity of the menstrual discharge. In the latter case the pain will be *constant* and severe, extending along the anterior crural nerve half way down the thighs. There will be a thin, offensive discharge from the vagina. The countenance will be wan and sallow, exhibiting the wear and tear of organic lesion.

If from the colon, there will be constipation, and inflation in the course of the bowel, or the fæcal discharges will be of small diameter, or there will be soreness of the intestine under pressure, especially at its ascending or descending portions, accompanied by mucus, or shreds of lymph in the form of boiled vermicelli, among the excretions.

If from arterial dilatation, an abnormal pulsation of the vessel involved—the aorta, for instance—may possibly be detected by auscultation in the incipient stage of the disease, *if such were suspected;* but in a large majority of cases such a cause may reasonably escape the attention of the ablest sur-

geon, from there being no tangible symptom that might lead him to suspect it; and even after the dilatation has considerably advanced, it may be sufficiently large to press upon and disturb the spermatic nerves, but not large enough to project and pulsate externally, and this may, at this stage, be confounded with diseases of the renal function. A few years ago I met with a case of this kind in a man of middle age. The pain had been constant and wearing, shooting from the loins down the course of the spermatic nerves, and for a considerable time was reasonably attributed to the renal function, especially as there had been constant disturbance of this function. At length the aneurismal sac began to approach the surface, and then, of course, the cause became apparent.

If from disease of the spinal column, the pain will be aggravated by percussing the spinous processes at this part of the spine, or by suddenly striking the toes against an uneven surface. There will be involuntary action of the muscles, especially of the flexors of the legs, diminished temperature, abnormal feelings, and more or less loss of power of the lower limbs. Should there be at the same time any unnatural projection of the spinous processes, the disease will be confirmed.

If from a collection of matter upon the psoas muscle, unconnected with spinal disease, the pain will be continued, dull, and deep-seated, extending from the loins down the psoæ, or in whatever direction the matter may have taken its course. The pain will be aggravated by flexing the thigh towards the abdomen, and there will be difficulty in walking; moreover, there will be marks of a strumous habit, and more or less symptoms of hectic fever. Should any fluctuating tumour present at the groin, or at any other point where the matter may find its way out of the body, it will be conclusive as to the nature of the case. *Prov. Med. Jour., Feb.* 17, 1844, *p.* 384.

17.—ON THE HYDROPATHIC TREATMENT.

[On this subject we have the following sensible remarks in a leading article of the Lancet:—]

On examining the various elements of which the hydropathic treatment is composed, we find that they may be reduced to the following:—The temporary application of cold to the skin after copious perspiration has been produced without artificial heat; total abstinence from all stimulating fluids; simple diet; early hours for rising; and regular bodily exercise.

With the exception of the first, the one, it is true, on which the greatest stress is laid, all these means of treatment can only be considered as hygienic agents; and if we analyse carefully the sweating and bathing processes, we find that they are merely the application to disease generally of agencies the use of which has been, from the earliest times, familiar, not only to the profession, but to the public at large. To appreciate correctly the influence of the hydropathic medication, we must recall to mind the physiological action of cold water on the human frame. Immersion in cold water produces a sudden shock on the nervous system, and is immediately followed by contraction of the cutaneous capillaries and retrocession of the blood from the external to the internal regions. The nervous system, however, soon rallies, and the heart impelling the blood with renewed vigour, it is returned to the periphery of the body, distending the capillary vessels which it had previously abandoned, and giving rise to an universal glow or sensation of warmth. The intensity of this *reaction*, as it is called, depends on various causes, one of the most important of which is the state of the skin previous to immersion. If its circulation is active and vigourous, and if, consequently, the surface of the body is warm, the reaction is certain, prompt, and vigourous. If, on the contrary, the circulation of the skin is sluggish, deficient in energy, the reaction is incomplete, or may be absent entirely. In this case the person who has been immersed, on getting out of the water, shivers, feels an universal sensation of cold, pain in

the chest, cephalalgia, and may not experience reaction for some minutes, or even hours.

The above principle, that the intensity of reaction after the application of cold depends chiefly on the previous vigour of the cutaneous circulation, has scarcely been sufficiently appreciated by hygienists. It is this principle which explains the innocuity of the cold bath as used by hydropathists in *some* diseases. By wrapping their patients up in a blanket, or in a wet sheet first and then in a blanket, as soon as they awake in the morning, when they are warm, and the circulation of the skin is active, perspiration is easily produced; and it is while they are in this state, while the cutaneous circulation is most vigourous, that they are plunged into cold water. As might physiologically be expected, the reaction is generally prompt and energetic, and thus the tonifying effects of the cold bath are often obtained with patients who would not have had sufficient warmth of skin or vital energy to react against the cold bath, as usually employed.

But this mode of administering the cold bath and the physiological data on which it is justifiable, are not new to the profession. With the exception that before Priessnitz the sweating stage was produced by artificial heat, which, in our opinion, modifies but little its physiological action, it has been known and put in practice from the remotest antiquity up to the present day. The Romans of old were in the habit of sweating in the *sudatorium*, and of then throwing themselves into cold water. The Russians and Finlanders of the present day remain for many minutes exposed to vapour heated to 150° Fahr., and then throw themselves into water just above the freezing point, or roll themselves in the snow. Even in our own country, where such practices are not in use, it is generally understood that a person may throw himself into cold water when warm or perspiring from exercise, without the slightest danger. Indeed, if ladies catch colds, pneumonias, &c., by coming out of ball-rooms, and heated localities, a circumstance which is much less frequent than is generally supposed, it is not because they come out of a very warm locality into a cold one, for the warmer the skin is the more able is the economy to resist the action of the cold, but because small portions only of the cutaneous surface, the neck and shoulders, for instance, are exposed for a considerable length of time to the action of the cold air. How seldom do we hear of men, whose clothing is such as to place the entire economy under the same hygienic condition, experiencing any inflammatory attack from such a cause. In northern climates, where the houses are heated in their totality, attacks of bronchitis, larnygitis, &c., are, we believe, much less common among the higher classes than in our own country, although the cold out of doors is much more severe. The reason is that the skin being throughly warmed when they leave their dwellings, the system is much better able to resist the action of the cold, to react against it.

If the view we have taken of the action of cold water on the skin is correct, and it is the one entertained by all the first physiologists and hygienists of the day, the sweating and bathing processes of the hydropathists are reduced to little more than a novel mode of applying the cold bath and of ensuring its efficiency in delicate constitutions. It is merely the exaggeration of the cold sponging in the morning, on rising warm from bed, which medical men so often recommend to their patients.

As to the abundant perspiration, respecting which so much is said, and which is stated to be so extremely efficacious, it is, in reality, of very little importance whether it be produced by rolling a person up in blankets, and thus arresting the natural evolution of heat from the skin until that organ relieves itself by abundant perspiration, or whether it be produced by the direct application of moisture and heat combined in the shape of heated vapour. The effect, as regards the elimination of a certain proportion of the animal fluids through the medium of the skin, is the same. And yet these are the novelties brought forward bythe hydropathists—novelties, as old as the art we profess—novelties, the nature and action of which every medical man has learned as a part of his professional education.

The means of treatment which constitute hydropathy, considered as a portion of our therapeutical arsenal, are powerful medical and hygienic agents, but can only be adopted as a panacea for all diseases by the ignorant public, or by such medical men as wish to raise their own fortunes on the credulity of others, or are destitute of that valuable faculty which we alluded to in a former number—*common sense*. By attention to diet, by moderation in the use of stimulants (or in some cases, by abstaining from them entirely), by exercise, by early rising, by cold ablutions, we preserve health; and in a long series of dyspeptic and nervous disorders, occasioned by town life, in which the stomach is often overloaded with food, stimuli are taken in excess, exercise is neglected, late hours are kept, and the mind is continually on the stretch; attention to these points is equally successful in restoring lost health. Cures are, indeed, every day effected by all medical men who practise extensively our profession, through the action of the above means, and that without their demanding of their patients the sacrifice of their residence or occupations, and without anything more than a placebo in the shape of medicine being administered. Is it then extraordinary, that when when we add to their agency freedom from the harass of business, the novelty of a picturesque highland residence, and a military-like regularity in the execution of the plan laid down, that many thus affected should rapidly recover at Graefenberg, Marienberg, Malvern, or other similar places? We must also forget that the hydropathists have many advantages in the application of the hygienic rules over regular practitioners. They *make* their patients get up at five, abstain from stimuli, take long walks, &c., while members of the faculty in general can only *advise* those who place themselves under their care to follow such a course; for they have not the halo which public opinion gives to novelty, and more especially to all panacea-mongers. Priessnitz, the peasant, is said to rule over lords and ladies, at Graefenberg, with a rod of iron. His very nod is obeyed by his patients, whom he never deigns to acquaint with the motive of his prescriptions. What would a West-end fine lady say of her physician, if he *insisted* on her getting up at five o'clock, taking a cold bath, and then walking round Hyde Park a couple of times before breakfast? He would be called a fool and dismissed! But the same lady will submit to this, or any thing else, if it comes from a Morison, or Priessnitz, or even from one of their more humble followers.

No doubt, in cases such as those we have just mentioned, the cold bath, which Dr. Forbes justly calls the most powerful tonic of the Pharmacopœia, is a valuable adjuvant, but we much doubt whether its efficacy is much increased by the immoderate sweating that precedes it. It appears that in a great number of cases, after a certain time, numerous boils and abscesses appear on the skin, and in the subcutaneous cellular tissue. These are appealed to, as indicating that the peccant humours of the blood have made their way to the surface of the economy; but every rational medical man must give a very different interpretation to the manifestation of such phenomena. They can, in reality, only be considered as the result of repeated and long-continued irritation of the skin, and must do harm by their reaction on the system generally.

There is another class of diseases in which the hydropathic treatment is calculated to be beneficial, viz., in rheumatic and gouty engorgements of the fibrous tissues of the joints. In these cases, it is more especially the sweating and bathing that act on the engorged tissues, gradually promoting a healthier action of the absorbents, and favouring the resorption of the effused lymph. In gouty constitutions, the hygienic treatment resorted to is also precisely the one calculated to modify the constitutional diathesis. If we could always persuade a patient who consults us for a first fit of the gout, to drink water for the rest of his life, to take exercise, and to diminish by half the amount of animal food he is in the habit of taking, there would be but little chance of a return of the attack. But although we think hydropathy harmless, or even beneficial, when directed against the sequelæ of

gout and rheumatism, we are very far indeed from admitting this to be the case during an acute attack of gout or rheumatic fever. The experience of ages tells us that in such cases there is a general inflammatory diathesis which explodes in the local inflammation, and that if repercussion of that local inflammation takes place, there is danger of the inflammatory action settling on some vital organ, and terminating the life of the patient. It is generally acknowledged to be of such extreme importance to prevent this translation of the disease from the extremities, that no physician in his senses would ever dream of preventing, by cold local applications, the manifestation of an incipient attack of gout, and would even be very careful how he applied cold to a person subject to gout in the interval of the attacks. This remark applies more especially to persons advanced in life, as they with difficulty resist even common inflammatory attacks of the more important viscera. There can be no doubt that Sir F. Burdett's death is to be attributed to the neglect of this pathological principle. In nearly all acute diseases we should be inclined to consider hydropathy a most dangerous practice. *Lancet, Feb.* 17, 1844, *p.* 693.

18.—COD'S LIVER OIL IN STRUMOUS DISEASES.—By W. O. Chalk, Esq.

It would seem, says Mr. Chalk, that ol. jecoris aselli is an active therapeutic agent in strumous, rheumatic, and some skin diseases; and that its revival as a remedy is likely to prove of great service. It cannot be considered as a merely dietetic agent. It possesses considerable power in allaying the diseases of the joints, especially strumous and rheumatic, and that with a rapidity unequalled by most other medicines. Tubercular depositions are absorbed under its influence. Even in the lungs it appears to have the power of arresting, or at least of modifying, the deposit. Scrofulous diseases of the bones are relieved by it. Faulty secretions are quickly changed to healthy, especially the hepatic. Some experiments were made on patients where no local affection existed, with a view to ascertain its effects on the biliary organs. Its success, in several instances, was complete, in changing the varied and clay-coloured motions of scrofulous habits to a healthy condition. With children the exhibition of the oil was commonly followed by relaxation of the bowels; with adults it frequently produced constipation. One of the most remarkable properties is its power of inducing *embonpoint*, and of restoring a healthy hue to the countenance. The number of patients treated with ol. j. a. amounted to between 80 and 100, of whom a large majority obtained decided relief. A great deal of difficulty was at first experienced in the administering of a remedy so disgusting and nauseous; nothing, I believe, could have induced many to take it but the opportunity they had of observing its good effect on others. Since my return to town, I have endeavoured to obtain a purer oil, for, however useful as a medicine, it would be impossible to bring it into general use unless deprived of its impurities. After examining several specimens, I have found that prepared by Mr. Wright, of 54A, Gloucester Place, Portman Square, to be the best, and its qualities unimpaired by the process employed for its purification. He states, as the result of his experiments, that he has obtained oils of various qualities, some of them quite inert. The liver of the milter cod yields the strongest oil, and darker in colour than that of the spawner. The two specimens now by me are exceedingly pure, nearly inodorous, and of a crystalline clearness. One is of a brown colour (the milter), the other of a light yellow (the spawner); the specific gravity of the former is ·921–5, temp. 64; that of the latter ·919, temp. 64. The quality of the oil is considerably impaired when a high temperature is employed in the manipulation. The object in giving publicity to these cases, is not to speak of the cures performed by ol. jecoris aselli, for they will be found comparatively few; but to call the attention of others to the fact that it does yield relief to a class of patients whose diseases too often baffle the attempts of the most enlightened prac-

titioners, and to induce them, when opportunity offers, to test its virtues for themselves.

[The dose was generally half an ounce three times a-day, continued for weeks and even months together.] *Med. Gaz., Dec.* 29, 1843. *p.* 414.

19.—ARSENIC AS A POISON; ITS TESTS AND ANTIDOTES.—By E. J. Shearman, M.D., Rotherham.

In order to prove the existence of arsenic, in a court of justice, we should be enabled to show the following facts so satisfactorily, that a jury may not only see, but perfectly understand them.

1st. The metal should be produced either from the contents of the stomach, intestines, or urine, if the patient should survive; or, if dead, from these and some part of the body.

2d. We should be able to prove that the animal substances experimented upon were the excretions and parts of the patient's body only, unmixed with any other matter.

3d. We must also prove that the tests we use to show the existence of arsenic have not a particle of arsenic in themselves. And this requires great caution, because a skilful advocate might make a guilty prisoner appear innocent, owing to this omission.

4th. As antimony, bismuth, tin, zinc, lead, tellurium, cadmium, selenium, and potassium, sublime in a somewhat similar manner to arsenic, and may be mistaken for it, it is absolutely necessary to guard against such a mistake.

The most common mode of obtaining arsenic from an organic solution, is that of Dr. Christison, in which he gets rid of the animal matter by boiling for half an hour in distilled water with strong acetic acid, which often precipitates the casein, and renders it sufficiently pure; if not, the solution should be neutralized by potash or ammonia, slowly evaporated to dryness, redissolved in distilled water, filtered when cold, and then evaporated several times again. This eventually produces a solution free from animal matter. With the ammoniacal nitrate of silver this gives a lively yellow precipitate, the arsenite of silver; with the ammoniacal sulphate of copper, an apple, or grass-green precipitate, the arsenite of copper; and with sulphuretted hydrogen gas (previously acidulated with acetic acid), it throws down an abundant sulphur yellow precipitate, the sulphuret of arsenic. This sulphuret should be collected on a filter, dried, mixed with black flux, or freshly ignited charcoal, introduced into a bulbed tube, and properly heated by a spirit-lamp, when a brilliant polished metallic ring of metallic arsenic will be sublimed all round the tube. This is called the reduction test. This metallic ring of arsenic should then be oxidized by exposure to the heat of a spirit-lamp in atmospheric air, when octohedral crystals of arsenious acid, with triangular facettes, will be deposited on the upper part of the tube, which may be easily seen with a tolerably good microscope.

In March's test, where hydrogen gas is generated from zinc, sulphuric acid and water, and the suspected substance is added in solution, arsenic having such an affinity for hydrogen quickly combines with that gas and forms arsenietted hydrogen, which being ignited, metallic arsenic is deposited on porcelain or glass, and may be seen in *rhomboidal crystals* with a powerful microscope. The objection to the test is, that we are obliged to use zinc, which often contains arsenic: and although it shows the most minute quantity, how can we swear, after the first layer of zinc is oxidized, that there may not be arsenic in the next? for arsenic runs in the veins of the ore.

In Professor Reinsch's test, modified by Christison, we mix the suspected matter with distilled water, add 3ij. of pure hydrochloric acid to every eight ounces of fluid, immerse a very thin and bright copper plate, and boil for half an hour, when the whole of the copper plate will be coated with arsenic. By cutting these plates into chips, and exposing them in a tube at a low red heat over a spirit-lamp, arsenious acid will be sublimed in *octohedral crystals with triangular facettes*, which may be rendered more dis-

tinct by turning out the chips, covering the tube with the finger, and chasing the oxide up and down the tube over the lamp.

A most ingenious, scientific, and elegant method of obtaining arsenic has lately been introduced by Robert Ellis, Esq., of University College. He has discovered that the oxides of copper have such an affinity for arsenic, that by merely passing arsenietted hydrogen over them, a double decomposition takes place: caloric is given out; the oxygen of the copper uniting with part of the hydrogen forms water, which is seen in the process; the arsenic of arsenietted hydrogen uniting with the copper, forms arseniuret of copper—the remaining hydrogen being set free. This arseniuret of copper may be easily sublimed in a glass tube, when the whole of the arsenious acid will be deposited in *thick brilliant clusters of octohedral crystals on the tube.* The objection urged against Marsh's apparatus will equally apply to this—that of being obliged to use zinc for the generation of hydrogen. The cleanest and safest mode of detecting arsenic is by decomposing distilled water by galvanism, to which is added the suspected solution, and pure sulphuric acid; collecting the hydrogen from the negative pole or zincode of Smee's battery, igniting it, and examining the stain left in a glass tube, open at both ends. If there is the smallest particle of arsenic, the hydrogen will unite with it; and you then have a stain of metallic arsenic with *rhomboidal crystals*, which you may then oxidize into *octohedral crystals;* collect, dissolve in water, go through the fluid tests, reduce the sulphuret in a tube, and sublime into arsenious acid again. This is the most delicate test known, and perfectly free from the charge of using any substance in which arsenic can exist.

The most likely substance to be mistaken for arsenic by any of these tests is antimony, because antimony sublimes into the same kind of crystals as arsenic. But by attending to the following rules the two substances may easily be distinguished. Metallic arsenic sublimes into rhomboidal crystals at a heat of 356° without liquefying. Arsenious acid sublimes at 380° into octohedral crystals. Metallic antimony sublimes not under 810°, and on cooling, acquires a highly lamellated texture, and *yields octohedral crystals like arsenic*, which are *insoluble in water;* whereas the octohedral crystals of arsenious acid are very soluble, and which solution may be tested by the three fluid tests. In the reduction test with sulphuretted hydrogen gas, it should be carefully remembered that the sulphurets of antimony, tin, selenium, cadmium, and tellurium, have nearly the same yellow colour, and are deposited in the same manner as arsenic, and when reduced to their metallic state with black flux, they not only give an appearance so much like arsenic, that it requires a very practised eye to distinguish each, if even that be possible; and tellurium and cadmium also exhale a garlic odour like arsenic.

The question then comes—how can a witness swear most positively, that a substance is arsenic and nothing else; and how can he convince an unscientific jury of that fact? I think only in the following manner.

1st. By producing the metal, and showing its crystals.

2d. Reducing it to the oxide, and showing its crystals.

3d. From these crystals going through all the fluid tests.

4th. Reducing the sulphuret again to its metallic state, then to the oxide, and again going through the fluid tests.

If this be shown clearly with all the before-mentioned tests, it will be impossible for any advocate to mislead a jury. The only antidotes which have been discovered for arsenic are the moist hydrated per-oxide of iron, and the moist hydrated per-sulphuret of iron. I have lately given dogs and rabbits large doses of arsenious acid in solution and powder, and immediately afterwards large doses of the moist hydrated per-oxide of iron, and then killed them within a short time. The stomachs have shown minute patches of inflammation, but no arsenious acid could be detected by Reinsch's method, the copper plates having merely a scaly deposit of iron upon them: nor could arsenious acid be detected in any other way. This is a strong presumption that the whole of the arsenic was reduced to its metallic state.

In the 1st vol. of the London Medical Gazette for 1841–2, page 116, is a communication from the celebrated Dr. Beck, containing an account of no less than 29 cases of recovery from poisoning by arsenic, by the prompt use of the moist hydrated per-oxide of iron, in the human species; and I could point out more which I have observed related in the journals. So that from the results of my own experiments, and the accounts I have read of the successful use of the moist hydrated per-oxide of iron as an antidote to arsenic in the human subject, by many practitioners, I am induced to place great reliance on this substance.

The last edition of the Edinburgh Parmacopœia (as well as Dr. Beck in the above named journal) gives a very good formula for preparing this antidote, under the name of "*Ferrugo.*" It can be kept good and fit for use in stoppered bottles, for any time, if covered with water. A table-spoonful should be given every five minutes in plenty of water, to an adult, and a dessert-spoonful to a child, until relief from the urgent symptoms is obtained.

Dr. Golding Bird suggests that hydrated per-oxide of iron may be extemporaneously prepared by adding one ounce of liquor potassæ to half an ounce of tincture of sesquichloride of iron. *Med. Gaz. May* 10, 1844, *p.* 188.

20.—TREATMENT OF ARTICULAR RHEUMATISM, BY COLCHICUM, NITRE, AND BLOODLETTING.—By Dr. E. Monneret.

Dr. E. Monneret has made some interesting observations on these points of practice, which deserve the serious consideration of the profession. Having shown, in a preceding paper, that the sulphate of quinine had no title to rank as a therapeutical agent in rheumatism as superior to many others, he now proceeds to test the value of the articles indicated above. Twenty-five patients were treated by the tincture of the colchicum root, eight by nitre, and nineteen by copious blood-letting. The energy of the preparation of colchicum was first ascertained—it was very powerful. The greater number of the patients took from 4 to 16 grammes (one drachm to four drachms) in the course of the twenty-four hours, in one, two, or four divided doses. No smaller dose than a drachm was ever administered, and several of the patients took it for seven, some for ten, and others for thirteen days. The medicine was not discontinued in any case until it was ascertained to have no effect upon the disease. In eight of the patients, the diminution, or even total disappearance of the symptoms of rheumatism, coincided with the exhibition of the tincture of colchicum. The rheumatism, in these cases, was either of some days' duration, and was scarcely accompanied with febrile symptoms, and then ended in twelve or fourteen days, or it was completely chronic. In either case the powerful revulsion produced by the tinct. colch. on the bowels sufficed to suspend or to expel the disease; the improvement always coincided with the diarrhœa. In no case did the tinct. colch. produce amendment or cure of rheumatism by any of those specific and occult properties which have been recognized in it by certain writers. In a few rare cases where its action was beneficial and rapid, it operated as a true drastic purgative. With regard to any complications which existed with the disease on the side of the heart, M. Monneret observes that it is scarcely needful for him to say that they were in nowise modified by the tincture of colchicum. If the effects of this medicine upon rheumatism, then, are *nil* in fact, which seems quite certain, it is much otherwise in so far as the abdominal viscera are concerned. Upon this point considerable difference of opinion appears to prevail; some say the colchicum occasions no intestinal disturbance, and that it does not purge; others maintain that it abates the pulse in force and frequency; and almost all unite in lauding its effects in rheumatism, &c. I have watched its influence in a sufficient number of instances, says M. Monneret, to have no hesitation in stating exactly what I have seen. In twenty-five patients to whom the tincture of colchicum was administered, I observed but a single order of phenomena at all referable to the gastro-intestinal system. The

most remarkable among them were nausea and vomiting, diarrhœa, colic pains, and bor-borygmi, and the whole of these effects almost immediately followed the exhibition of the medicine in large doses, and for a certain time. In other instances diarrhœa was the prevailing feature—there was little sickness or vomiting, but the alvine evacuations were copious and repeated. In a third and very small class the chief complaint was of nausea and vomiting without any purging.

The sickness supervened either immediately after taking the draught, or at some longer or shorter interval during the day or night. The discharges were almost always bilious, or evidently mixed with bile. The diarrhœa was generally in proportion to the dose; from one to two drachms of the tincture were followed by from two to twenty evacuations in the course of the twenty-four hours. The motions were mostly passed with acute suffering, violent colic, pain in the bowels, tenesmus, and scalding of the anus. The matters passed were at first semi-fluid, but by-and-by they consisted in great part of a yellow and evidently bilious serum, in which floated a large quantity of whitish grains, in form and colour like the ova of a fish's roe; there was also mixed with them a quantity of red matter like scrapings of meat, and some blood, more or less mixed with mucus. Vomiting was scarcely induced by a smaller dose of the tincture than from two to four drachms in a draught; it will not follow one drachm, two drachms, or even three drachms administered in a large quantity of tisan. Several elements enter into the consideration of the therapeutical effects of medicines: the dose, the mode of administration, and the intervals of repetition. The effects of remedies are signally different from those generally seen when they are given in large and closely repeated doses. Three drachms of tincture of colchicum, in two doses, one close upon the other, produce effects which are not only more energetic, but also different from those generally witnessed.

It is obvious, therefore, that colchicum in tincture exerts its agency especially upon the bowels. Of what nature is this agency? the diarrhœa, the dysenterical character of the stools, the severe griping which follows its exhibition, do not continue as in cases in which the intestinal mucous membrane is truly inflamed; its effect is mainly to alter the secreting faculty of the intestines; the fluids habitually poured out are increased in quantity and changed in quality.

Colchicum appears to have no effect upon the urinary secretion; and must therefore be raised from the number of diuretics.

Blood-letting.—In nineteen cases of acute articular rheumatism, desiring to ascertain the effects of a somewhat energetic and antiphlogistic treatment, the patients were bled at least three times each, in the course of the first four days, and cupping was further had recourse to around the affected joints, or to the region of the heart; only in two of the cases were tartar emetic and digitalis exhibited simultaneously. The quantity of blood abstracted was considerable—large; and the venesections were repeated at short intervals. The mean stay in hospital of the patients thus treated was fourteen days—about the same as when other plans of treatment were employed. The effect of the blood-letting on the disease can always be judged of by the state of the pulse: if it becomes less frequent, and loses force and volume, and if the temperature of the surface at the same time declines, the disease will end; if the pulse continues frequent, the disease is not yet at its conclusion. Sometimes the pulse falls suddenly after the first or second bleeding, and the disease appears about to be subdued; but it soon rises again to its old number, and matters go on as if there had been no prospect of amendment: the gradual and enduring fall of the pulse is the best sign of improvement; if it fall from six to twelve beats below its usual number, so much the better. When the symptoms are not relieved by the blood-letting within the first four or five days of the invasion of the disease, it is vain persisting in the abstraction of blood; the practice then is only injurious: bellows murmurs are set up in the heart and great vessels, the sur-

face becomes drenched in sweat, the sleep is disturbed, the pulse is rapid, and the pains, far from diminishing, flit about from one joint to another, or remain obstinately fixed in those that were first attacked. The conclusion, on the whole, in regard to blood-letting is, that in moderation, it is useful, especially when practised early in the disease, within the first four days; after this, depletion by the lancet only reduces the patient, and renders his recovery more difficult.

Nitre.—Eight patients only were treated with nitre, and of the number one was affected with meningitis cerebro-spinalis, another with pneumonia. In all the rheumatism was recent and severe. The medicine was administered in doses of from eight to thirty grammes (two to seven and a half drachms) dissolved in tisan. Its influence appears to be absolutely *nil* in the whole of the cases. The pains in the joints, the signs of endocarditis, underwent no kind of diminution under its influence. The pulse was not lowered, the febrile heat was not lessened by it. The quantity of urine passed in the twenty-four hours was not increased. In order to control the disease it was necessary in every case to have recourse to other means.

Med. Gaz., May 10, 1844, *p.* 206.

81.—INFLAMMATION AND GANGRENE OF THE LUNGS PRODUCED BY PARTIAL ASPHYXIA.—By J. D. Heaton, M.D., Physician to the Leeds Public Dispensary, and Lecturer on Botany at the Leeds School of Medicine.

[A case is related by Dr. Heaton, which shows very remarkably the power of partial asphyxia by whatever cause produced, in causing that state of congestion of the lungs which must frequently end in inflammation. The partial asphyxia in this case was produced by a woman taking a large dose of laudanum. The immediate effects of the poison were counteracted, but in a few days pneumonia appeared in the right lung, which ultimately ended fatally. Dr. Heaton remarks.]

The interest of this case depends on the good illustration which it affords of the pathological fact that a continued state of partial asphyxia, from whatever cause, even though the immediate effects may be removed, produces such a state of congestion of the pulmonary vessels as may lead to very serious inflammation of the lungs. In the present instance, the asphyxia arose from the stupifying effects of a poisonous dose of opium, under which influence the respiratory movements were so far arrested as to produce for some time a state bordering upon asphyxia. Without going into any detail as to the theory of asphyxia, it will be sufficiently clear that when the movements of the lungs cease to be efficiently carried on, the black blood supplied to them fails to become duly aerated, and finds an increasing difficulty in making its way through these organs, and that this difficulty is increased by the feeble action of the heart, through whose nutrient vessels unoxygenated blood now circulates.

The effect of partial asphyxia in producing this state of the lungs is well illustrated by the old experiment of dividing the par vagum in a living animal. When this operation is performed, respiration ceases to be carried on as a reflex action, and the respiratory movements become entirely dependent on volition. Hence these motions are imperfectly effected. They are, however, still carried on so far as regards the *evident* motions of the chest, though incompletely and laboriously; but there are, probably, other motions of the lungs, of a more intrinsic nature, not at all under the influence of volition, and effected exclusively as a reflex action; these are the contractions and dilatations of the bronchial tubes which the experiments of Dr. Williams (during the summer of 1840, and which were laid before the meeting of the British Association), sufficiently proved to be contractile, and which probably take place in connection with those of the whole chest. This motion of the tubes, together with similar motions of the larynx equally involuntary, must be cut off when the par vagum is divided or paralysed, and this must prove an additional impediment to the respiratory function. The result of this is, that after death the lungs of the animal experimented on are found in a highly engorged state.

The paralysing effect of opium on the nerves produces a similar result; but in this latter case the voluntary movements are impeded as well as the involuntary. Asphyxiating gases, and various other causes producing this state in a degree not immediately fatal, if continued in operation long enough to deprive the distended vessels of their tonic contraction, produce congestion of the pulmonary plexus. When recovery from the state of asphyxia is effected, the heart regains its full powers, and by its reaction upon the congested vessels, the congestion is converted into inflammation. The effect of the more ordinary causes of pneumonia is very similar to this of asphyxia; congestion is first produced, which is converted into inflammation. The continued exposure of the surface to cold, constringes the external vessels and drives the blood upon the internal organs; if any previous weakness or disease exists in the lungs, such as a deposit of tubercular matter, this organ becomes the seat of the congestion so produced, which the reaction of the heart converts into inflammation.

It is seldom, however, that the pneumonia, arising from asphyxiating causes, presents the characters of acute inflammation. The blood may have become so far stagnated in some parts that reaction cannot be produced, and congestion passes immediately into gangrene. Gangrene is by no means an ordinary termination to inflammation of the lungs. It was the opinion of Laennec, that when this organ presents the appearances of both inflammation and of gangrene, it is the latter state which precedes and causes the former. This is now considered to be only occasionally, and not invariably the case. But those instances in which gangrene results from asphyxiating causes, are just those in which this state is most likely to precede, and, by its irritating effects, to give rise to the inflammation in adjacent parts. Chomel has related cases in which gangrene of the lungs has resulted from exposure to asphyxiating gases, in which he supposes that the first or congestive stage of pneumonia has passed immediately into gangrene. It appears not improbable that such was the case in the present instance, for the symptoms were at no time those of *acute* inflammation, which is that form most likely to *terminate* in gangrene. Neither was there any attempt set up to circumscribe the disease; the walls of the cavity were themselves in a state of sphacelus, presenting no definite boundary. The loose tissue of the lungs is not favourable to such a limitation, and the low character of the vascular action was likewise opposed to the effusion of good lymph requisite to this process. The extremities of the vessels leading to the gangrenous part were, however, closed, as was ascertained by examination, and proved by the circumstance that no hæmorrhage took place. The softened, almost purulent state of the muscular walls of the chest at one point, posteriorly, seemed as though an effort were then making to form an opening externally for the discharge of the pulmonary abscess.

Besides these changes in the lungs, there was a considerable amount of tubercular disease, both of old standing, and in the form of military granulations of a recent date. Tha tuberculous affection, however, was of a slow and chronic character, and such as might not have seriously interfered with health for many years, though it may have served to aggravate the more acute affection hitherto considered. The plan of treatment adopted in this case was locally antiphlogistic, combined with generally tonic and stimulant medicines, and regimen to support the strength, and enable the system, if possible, to throw off the putrid matter contained within the lung. But the symptoms were unfavourable from the beginning, and the extensive disease disclosed after death sufficient accounts for the fatal result.

Med. Gaz. May 3, 1844, *p.* 134.

22.—IODIDE OF POTASSUM.—By W. S. Oke, M.D., Southampton.

[Dr. Oke's experience in the use of this medicine is as follows: He has not found it efficacious in abdominal tumours, scirrhous induration, ulcerated carcinoma, lupus, indurated glands, scrofulous ulceration, lesions of

the respiratory organs, enlargement of the liver, ascites, nor in encysted dropsy. On the other hand he has found it of great value in phagedenic, periosteal disease, and chronic rheumatism, some kinds of dyspepsia, spasmodic asthma, and chorea.]

Phagedanic Ulceration. Case.—J. R., aged 38, by occupation a ferryman, in the spring of 1837, came from a distance of four miles to consult me for sore throat and difficulty of breathing. His respiration was stridulous and laborious, and he appeared as if struggling in the advanced stage of croup. On examining the internal fauces, I found the soft palate and tonsil-glands involved in extensive ulceration, which was also fast destroying the mucous membrane of the larynx, and threatening asphyxia. It appeared that the disease of the throat had existed for some months before it assumed its present alarming character. Almost despairing of any success I ordered the following treatment:

Iodide of potassium, half a drachm. Tincture of orange peel, half a fluid ounce. Syrup of ginger, half a fluid ounce. Water, five fluid ounces.

Take half a fluid ounce diluted with mint water three times a-day, and wash the throat frequently with the following gargle:—

Solution of chloride of calcium, ½ fluid ounce. Honey of roses ½ fluid ounce. Water, 5 fluid ounces.

I requested to see him again in a few days, if he were well enough to come in; at the same time fearing he could not long survive so much laryngæal mischief. I was, however, most agreeably surprised to see him at the end of a week, in every respect better than could have been imagined after so short a trial of the iodide. The condition of the throat was very much improved, and his breathing tranquil and free; in short the medicine had, as it were, snatched him from imminent danger, and already placed him in comparative safety. The same treatment was continued for some weeks longer, when his throat was healed; and he left my care convalescent. After this I lost sight of him till the spring of 1839, when he requested the favour of my going to see him at his own house. I found him in a truly pitiable condition. He was in bed, which he had kept for eight months, worn out with severe rheumatic pain, exhausted with intestinal hæmorrhage, pale, atrophied, and cachectic. He had been all the winter under the care of a medical gentleman, who had endeavoured in vain to relieve him. Reflecting on the character of his former symptoms, and inferring that he was under the influence of the same disease, I at once put him under the iodine treatment that had been so successful before, adding to each dose of the iodine a few drops of the tincture of opium. In a few days his pains were relieved, and he began to rally; in three weeks he came down stairs, and in a few weeks afterwards paid me a visit, and represented himself well. I saw this man on the 5th of March, in the present year, in the enjoyment of *full health*, five years having elasped since his last attack.

Periosteal Disease. Case 1.—J. C., aged 40, a baker by trade, consulted me for an agonizing pain of a rheumatic character in the right tibia, which was considerably enlarged, and its periosteum thickened along the upper half of its anterior and inner surface. The pain had existed for *eight years!* it attacked him every night as soon as he was warm in bed, and had in a great measure long deprived him of sleep. He is a married man; and solemnly assures me that he has contracted no syphilitic disease for the last twenty years, when he had a swelling of the groin. He told me he had spent in vain almost all he possessed in medical advice, and had been once in an hospital with no better success; that he could bear his sufferings no longer; and, that in the event of my treatment being also unsuccessful, he had decided on submitting to amputation as a last resource. I at once put him under the use of the iodide, of which he took five grains in solution three times a-day, and continued the treatment for six weeks; at the end of a week the pains left him and never returned; the enlargement of the tibia diminished, and he speedily recovered.

Case 2.—A medical gentleman, about 40 years of age, of dark hair and

pale complexion, had been for several years tormented with severe aching pains of the limbs from a morbid condition of the periosteum. The disease was seated principally on the lower third of the right femur, where there was considerable nodosity with much tenderness: so severe was the pain, that he was under the necessity of taking larges doses of opium every night to procure sleep, and enable him to perform the duties of his profession. The long continuance of the disease had seriously injured his health, and reduced him to so great a state of debility and emaciation, as to cause alarm for the result, especially as peritoneal dropsy and anasarca of the legs had taken place, and as the urine was found to be albuminous. Every remedy that could be suggested by his medical brethren, was tried to relieve him—mercury, sarsaparilla, di-sulphate of quinine, the sesqui-oxide of iron, the arsenite of potass in solution, the vinum colchici, &c., had each its fair trial; the veratrine, and also the belladonna, had been rubbed in externally, but all to no purpose: the dropsical symptoms had, however, been removed by the bi-tartrate of potass. At this period of the disease, and early in the summer of 1837, I strongly urged him to try the iodide of potassium. Previously to his following my advice, by the persuasion of a medical friend, he took the iodide of iron, but without any marked advantage. He then commenced the hydriodate of potass in five grain doses three times a-day. In about a fortnight he was conscious of having derived decided benefit, which encouraged him to persist regularly in the treatment. The result was his pains gradually left him; the nodosities were absorbed, his sleep returned without the use of opium, his appetite improved, his breath lost the mercurial fœtor, he gained flesh, and in a few months was convalescent. I had opportunities of seeing this gentleman a long time after this, and his disease had not returned; on the contrary, he appeared to enjoy confirmed health. *Prov. Med. Jour., April 24, 1844, p. 46.*

[Several good cases are next related on the efficacy of this medicine in chronic rheumatism and gout. The dose was generally four or five grains three times a-day.]

When a paroxysm of gout has either subsided or been subdued by colchicum, it not unfrequently happens that it loiters in the system, sometimes plaguing one joint and sometimes another, not in sufficient force to fever the system, but just enough to confine the gentleman to his arm-chair, or to keep the man of business from his counting house. Under such circumstances I have found the iodide of the greatest service in clearing the system of the disease for a considerable time. I gave it in the following combination:—

℞ Iodide of potassium, 5 grains; Sesqui-carbonate of soda, 10 grains; Camphor julep, 1½ fluid ounce. This dose to be taken thrice daily for a month or six weeks.

[In certain forms of dyspepsia, apyrexial asthma, and chorea, it has likewise been found very useful. Dr. Oke attributes its good effects in these cases to its power of invigorating the system. He says]

A cachectic condition of the system, in whatever diseases it result, so long as those diseases be not *organic*, is in fact the true object of its curative agency; and this would best explain its success in the three last diseases related—dyspepsia, apyrexial asthma, and chorea Sancti Viti, all of which were at least associated with, and probably derived from, a morbid atonicity of the nervous functions involved. I have occasionally given four or five grains of blue pill every other night during the exhibition of the iodide, and I think it sometimes forwards its success. The period necessary for a course of the iodide of potassium in "cachexia syphiloidea" is at least two months. In other cases the time must depend on the effects of the medicine. I have not had occasion in any case to give a larger dose than five grains, which has ever proved sufficient to accomplish the object in view, where the disease has been curable by this medicine. This dose has never produced any adverse effect; but in some instances, as in the first rheumatic case, it has thrown out an eruption peculiar to this remedy;

and in others it has caused a bitter lupuline taste to rise up into the back of the fauces, which has annoyed the patient, and obliged me to suspend the iodide for a few days or reduce the dose. What deleterious effects may result from large doses I must leave to be described by those who give them. The iodide of potassium is always inadmissible where there is any febrile disturbance, or where the tongue is much coated. I have ever found it to disagree in such cases. *Prov. Med. Jour., May* 1, 1844, *p.* 84.

23.—ERGOT OF RYE IN RETENTION OF URINE.—By JAMES J. ROSS, M.D., Cambusmore.

[An old man, aged 70, was suddenly seized with retention of urine, and was not relieved by the catheter till the lapse of nine days. Dr. Ross saw him for the first time three days after this, when he found him reduced, weak and low spirited, with complete retention of urine. There was no enlargement of the prostate, nor any obstacle to the introduction of the catheter, which was now introduced three times a-day.]

The urine drawn off, though at times muddy and dark, was generally clear. On the 12th January, however, it became all at once as dark as port wine, evidently from bloody admixture. This was speedily checked by doses of alum gr. xv., with tinct. mur. ferri gtt. xx., every three hours, and it soon became again clear and healthy. The general health and strength having suffered much, he was ordered a bitter tonic infusion three times a-day. This was successful in restoring the appetite and increasing the strength, while the urine continued to present the characters of health; but not a drop came except by the catheter, which, in order to prevent any undue accumulation in the bladder, was now passed four times a-day.

About the 10th of February, he was able to leave his bed and sit up a portion of every day. He now commenced to take ext. s. n. vomicæ gr¼. His health improved, he became stronger and stronger, till at last by the end of February he was pretty well in all respects, except that the retention continued as perfect as ever—not a drop of water escaped, even alongside the catheter.

Seeing at this time a paragraph in *Johnson's Review*, for July, 1839, p. 221, mentioning some similar cases treated successfully by ergot of rye, I determined on giving it a trial. Accordingly, on the 2d March, it was begun in the dose of 10 grs. given in a glass of water every morning. It was gradually increased to 15, 20, 25 grs., and ultimately to 3ss was given every morning as above. On the third day after the last mentioned dose was attained, there was great irritability of the bladder, constant desire to have the urine drawn off, and pricking pains in the hypogastrium, and the secretion was rather increased in quantity. Next day, a little water escaped through the urethra. The action of the medicine was kept up, and now, on account of the increased irritability of the bladder, the catheter was passed every four hours. Each day a little water was rendered *per viam naturalem*, chiefly in the morning, and always more readily when exposed to the cold open air than in a warm room; this little gradually increased, so that by the end of March, about half was passed naturally. The ergot was now only given occasionally, 3ss every two or three days; and, without further details, suffice it to say, that the bladder gradually recovered its tone. By the 1st May, the patient had quite regained power over it, and was able to pass his urine as freely as ever. He then laid aside the catheter, and from that day to this, he has never had the least occasion to resume it. Since the occurrence of this case, I have had another opportunity of testing the ergot of rye; but it seems to deserve a more extensive trial than it has yet got in similar circumstances; especially when the retention occurs in old subjects, and depends on paralysis of the bladder, arising simply from previous over-distension.

London and Edinburgh Monthly Journal of Med. Sci., Jan., 1844, *p.* 43.

[Dr. Houston, of Dublin, confirms the experience of Dr. Ross, by the fol-

lowing case admitted into the city of Dublin Hospital, Dec. 14, 1843, and read to the Surgical Society of that city. The patient was obliged to urinate very frequently, sometimes every fifteen minutes, but left a quart of urine in the bladder, which he could not expel by voluntary power. There was no stricture of the urethra nor prostatic enlargement. It was clearly a case of paralysis senilis of the bladder, with catarrh of the mucous membrane. He was ordered a warm bath every second day, and to keep in bed. The urine was drawn off every six hours, a generous diet was given, and camphor and hyosciamus three times a-day. Under this treatment he gradually improved, so that he could empty his bladder to about six ounces; but after this he made no improvement till the ergot was administered. Dr. Houston then gave up all medical treatment except the ergot, taking care, however, that the bladder was emptied regularly. Dr. H. says—]

I directed six grains of the ergot, in the form of pills, to be taken three times a-day. For some days no change in the symptoms was observable; but after this time a manifest improvement began to exhibit itself in the diminution in the frequency of the call to urinate, the force with which the stream was propelled, and the completeness with which the bladder emptied itself. On the 25th he had been only called up twice, the night before, to pass water; he voided it in a tolerably arched stream, with comparatively little effort, without its being followed by any dribbling, and, as tested with the catheter, without leaving more than two ounces behind. The medicine was continued in the same doses up to the 30th of January, when every symptom of urinary disease was declared to have disappeared, and the man was able of himself so completely to empty his bladder, that a catheter introduced, after he had done, could not discover a single drop of urine. At this date he left the hospital, but returned in a week to show himself, when I found that the advantage gained under the use of the ergot of rye had become fully established. The man returned to the country perfectly satisfied with his cure. Dr. Houston stated that during the period of the administration of this medicine there were no symptoms, as effects of it, which he could observe, except the gradual improvement in the tone of the bladder. He said that he had purposely abstained from commencing the use of it until the complications of the disease—viz., the catarrhal state of the bladder and the morbid condition of the urine consequent thereon had been abated by appropriate treatment; and he regarded this as a consideration of some moment in its use. The aim of the medicine being to improve the tone and energy of the *detrusor urinæ*, in fairness, that muscle should be as far as possible disembarrassed of all such contravening circumstances as can be got rid of, before its administration is embarked in. Dr. H. said that while he was disposed to attach much importance to the ergot of rye as a remedial agent in this case, he could not overlook the share which the regular emptying of the bladder by the catheter had had in contributing to the cure, for he believed that no medicine given internally could well effect this object while the bladder is allowed to remain mechanically disabled from discharging its contents by over-distension. But he could not overlook the fact that the case, under the ordinary treatment adopted, had come to a complete stand, and that it was during the use of the ergot during the latter periods that the restoration of the bladder to its natural functions was brought about. He would, therefore, recommend the use of the catheter simultaneously with the ergot in the treatment of such cases—provided, always, that the introduction of the instrument can be practised with ease to the patient, and without exciting rigors or other urinary disturbances.

Dr. Hargrave said he would mention a very interesting case, corroborating the testimony of Dr. Houston, in favour of the ergot of rye:—A girl, named Simpson, was admitted into the City of Dublin Hospital last summer, suffering from amenorrhœa and a supposed calculus in the bladder; also, not having passed water voluntarily for the last six years. Having examined the bladder most carefully, in which he was assisted by Dr. Beatty, no foreign body could be detected in it. Some small caruncule

were observed at the orifice of the urethra. This woman was treated in the first instance to produce a return of the menstrual secretion, and during a period of six weeks that she was in the hospital, passed no water voluntarily. She was ordered the ergot of rye in five grain doses, morning and mid-day, with the intention of acting on the uterus. After she had taken six doses of the ergot she regained full power over the bladder, and was enabled to pass water without the assistance of an instrument, which she had not done for nearly six years previously. She continued to do so while in the hospital, and since her dismissal.

Dr. O'Beirne said he remembered a remarkable case of paralysis of the bladder at Jervis-street Hospital, occurring in an old man of seventy-five, but appearing fifteen years younger, and free from all other diseases. Various modes of treatment were employed. Among the rest, cold dashings upon the hips and abdomen, and the injection of cold water into the rectum; but all failed until he injected nearly a quart of very cold water into the bladder. From the moment that this was done he lost everything like retention of urine, and passed it as usual during the fortnight that he afterwards remained in the hospital. In this case there was no stricture, and no evidence of disease of the mucous membrane of the bladder. Such were the cases in which he would think the practice useful and safe.

Dublin Medical Press, Feb. 28, 1844, p. 137.

On Ergotine.—This name has been given by M. Bonjean de Chambéry to an extract prepared from the ergot of rye. It is prepared by digesting the ergot in distilled water, precipitating the gummy and albuminous principles by means of heat and alcohol, and then evaporating to the consistence of a soft extract, which is the ergotine in question.

This extract is soft, of a brownish-red colour, homogeneous, and it has an agreeable odour of roast meat; its taste is rather piquant and bitter, slightly resembling damaged wheat. It forms with water a limpid, transparent solution, of a deep red colour. Five hundred parts of the ergot furnish seventy or eighty parts of extract. The ergotine, says M. Bonjean, is a real specific against hæmorrhage in general. Whoever tries, he continues, my ergotine, will be surprised at the immediate effect produced in the most alarming menorrhagia; the most obstinate vomitings of blood yield in a very short time, and relapses are rare, especially when the physican takes the precaution of continuing its use some time after the cessation of the symptoms. In order to be convinced that the ergotine is the obstetrical principle, it is sufficient to treat the powder of the ergot with æther, until all the matter soluble in that liquid is taken up. All the poison is thus taken away, that is to say, all the oil of ergot and the resin. There remains a powder, which is not unctuous, but rough, like sand, without taste, without any poisonous action, and which powerfully excites uterine contraction in the dose of four or five centigrammes, in all cases of inertness of the womb, where the employment of ergot of rye is judged suitable.

The following formulæ have been proposed by M. Bonjean:—

Ergotine, one gramme; common water, one hundred grammes; syrup of orange flowers, thirty grammes.

Let a mixture be made, to be taken by spoonfuls during the day for hæmorrhage, and every quarter of an hour in cases of want of uterine action, until the accouchement is ended. This dose is, in most cases, sufficient for an ordinary hæmorrhage; but when those alarming floodings come on which sometimes happen after the accouchement, the mixture ought to contain from five to ten grammes of ergotine, and to be administered by spoonfuls, at short intervals, until all danger has disappeared. We cannot help agreeing with M. Bouchardat, that the name of ergotine, which M. Bonjean has adopted, is inapplicable to a complex and ill-defined product, and that the separation of the poisonous from the medicinal principles, which M. Bonjean assumes, admits of no rigorous demonstration. There is no difference between a poison and a medicine, except in its doses, and in the propriety of its administration.—*Bouchardat's Annuaire de Therapeutique, &c.*, 1844.

Prov. Med. Jour., Feb. 10, 1844, p. 378.

[The secale cornutum has been used successfully in *pulmonary hæmorrhage*, by Dr. Roussell, of St. Bartholomew's Hospital. In a case reported by him, after various remedies had been tried in vain, the patient bringing up blood by mouthfuls, skin cold, circulation extremely languid, a scruple of the ergot was administered every hour for three times. The first dose checked the hæmorrhage, and after this he expectorated but little.

Medical Times, Feb. 10, 1844, p. 313.

24.—DIGITALIS IN MANIA AND EPILEPSY.—By EDMUND SHARKEY, M.D., Jersey.

This gentleman published in 1841 an account of some cases of idiopathic epilepsy, in which very large doses of digitalis had produced excellent effects; and he has since met with cases of mania combined with the former disease, in which the same large doses of this medicine were equally beneficial. In the case of a young woman of 27, who had been the subject of attacks of idiopathic epilepsy from childhood, followed by mania, Dr. Sharkey gave ℥ij. of the tincture prepared from the fresh leaf, after the woman had been attacked with one of these fits of mania for three days. She had been sleepless for three days and nights and talked incessantly: she had taken no food or drink during this time. On the night after this dose of digitalis she slept soundly, awoke composed, and made a hearty breakfast. She continued to do well. In another case, that of a man aged 60, the epileptic fits occurred at intervals, being seldom absent above three days.

Fits are generally preceded by flightiness of manner. Is more liable to them when constipated. Was at first subject to violent headache, not so at present. Maniacal fits, so violent as to require restraint, frequently alternate with the epileptic. Memory impaired; enunciation embarrassed; attacks sometimes accompanied by a cordiness of temporal arteries, and a tightness and fulness felt in the head.

[In this state ℥i. of the tincture of digitalis was administered three times a-day. Next day this was omitted on account of constipation, and resumed the day after. As much as three drachms of the tincture were occasionally given at one time, always taking care to pay particular attention to the pulse during its administration. We find, on examining the report, that although the fits were not exactly checked, they were undoubtedly considerably mitigated by the medicine; but we consider that it requires further experience before its efficacy can be depended upon. Its administration seems to have been accompanied by more or less nausea and vomiting, and this may, in some measure, account for its beneficial effects, as we find a still more remarkable power in the combination of tartarized antimony and opium in some forms of nervous fever, when the patient labours under excitement of the highest degree, almost amounting to convulsions. (See article 2, in Retrospect, No. 7.)

Dr. Sharkey says that he has endeavoured to prove that, when digitalis is administered in sufficiently large doses, the stage of excitement becomes, as it were, evanescent, and the medicine acts, to all intents and purposes, as a direct sedative, and this even in cases where a confined state of the bowels exists; contrary to the opinion of Dr. Halloran, who asserts that in this case it is a stimulant.

It is, no doubt, desirable, but *not indispensable*, that they should be open; which it is well to know, in those cases where, in order to avoid the sad alternative of coercion, speedy relief is necessary, and where time could not be afforded for the operation of a purgative. He hopes that physicians of lunatic asylums, and other establishments presenting extensive opportunities of testing these views, may be induced to do so, as it would be an inestimable boon conferred on the unhappy class of beings to whose relief they minister, if any so easy means should prove a safe and efficacious substitute for circular swings and straight-jackets. Dr. Holland, in his Medical Notes and Reflections, states his opinion, "that one cause of the frequent failure of digitalis is its too timid administration;" and Dr. S. says, that

from these as well as from many other cases which have come under his observation, he is more and more confirmed in the opinion which he formerly advanced, that epilepsy and epileptic mania, in obedience, it would seem, to a general law of disease, confer a tolerance of an appropriate remedy, in doses which would be dangerous under other circumstances; and in cases where the heroic dose is inadmissible, admit frequently of palliation by the administration of digitalis in doses hitherto little dreamed of in practice. It is quite certain that in the second case here recorded, the digitalis repeatedly, and with certainty, controlled the maniacal tendency, which, in this case, was generally attended by more or less vascular excitement; while in the first case, in which no such concomitant symptom was found, its action seemed no less prompt and beneficial. It is likewise worthy of note, that the characteristic effects of the medicine on the circulation seemed to follow its sedative effect at an interval of twenty-four or forty-eight hours.

The subject of the second case has been taking regularly since the 8th inst., tr. digital.—spt. tereb. aa. 3j, morning and evening.

Med. Gaz., Dec. 8, 1843, *p.* 305.

[Dr. Scott, of Liverpool, has been accustomed to use the same medicine in sthenic epilepsy. A paper of his on this subject will be found in the Prov. Med. Journal, April 3, 1844, p. 9.]

25.—ISCHURIA RENALIS.

[Dr. Theophilus Thompson has recorded an unusual example of complete interruption of the renal secretion, unattended with the urgent symptoms which protracted anuria usually induces. Death will generally ensue within three days of such an event: Dr. Prout thinks that five days will often elapse before coma takes place. In this case of Dr. Thompson's, no urine was secreted for about 120 hours, and during the next 48 hours, only half an ounce was passed, and the natural quantity was not restored for a month, and yet no urgent cerebral symptoms at any time occurred. Dr. Thompson attaches some importance in the treatment of the case to the application of nitrate of silver. The final result of the case does not seem to invalidate the value of this opinion. The case was that of a lady aged 45, who had for five years suffered in the region of the colon from frequent and severe attacks of pain. Jan. 28th, the secretion of urine was suddenly suspended, so that only half a drachm was obtained on introducing the catheter. Nine ounces of blood were removed from the loins by cupping, and small doses of tincture of cantharides were administered. In the evening, two drachms of turbid urine were passed. The loins were cupped again, and blistered: prussic acid, creosote, &c., were given, but still, on the 3d of Feb., i. e., seven days after the first suppression, little or no urine had been voided. The nitrate of silver was now freely applied to an old issue on the loins which had lately been dried up, with the view of restoring it: in the evening a drachm of urine was discharged, and during the night 3½ ounces. The secretion became gradually restored. During the following month, however, she was attacked with an epidemic influenza, and died.

Med. Gaz., Jan. 12, 1844, *p.* 478.

26.—COCHINEAL IN HOOPING COUGH.

Dr. Cajetan Wachtl, of Vienna, treated nine children, suffering from this disease, with cochineal, as recommended by certain English physicians. The remedy was administered in all stages of the disease; and its efficacy was so instantaneous and constant, that, notwithstanding the paucity of cases, Dr. Wachtl feels authorized to regard cochineal as a specific in hooping cough. The following is his manner of exhibiting the remedy:—Take of cochineal one scruple; sugar, one ounce. Dissolve in six ounces of warm water. The dose is three tea-spoonsful in the 24 hours. The solution ought not to be kept longer than 36 or 48 hours, because after that

time it assumes a brown hue, and a sour taste, which renders it unfit for use.— *Pharmaceutical Journal.* *Med Gaz., Jan. 26, 1844, p. 560.*

[This formula is objected to by Dr. Allnat, inasmuch as the solution becomes acid in a few hours and unfit for use. He has employed the same remedy for twenty years in hooping cough with success. He says.]

A peculiar acid is generated in the system by the disorder, which may be detected in the excretions from the stomach, and which, in my opinion, is the exciting cause of the spasmodic action of the glottis, producing the "whoop." It is obviously desirable, therefore, to neutralize this acrid condition of the first passages, in order to obtain the full advantage of the antispasmodic and anodyne properties of the cochineal; and for this purpose the *alkaline solution* is invaluable. It is of a deep purple or violet hue, will keep a long time without change, and the active powers of the cochineal are not impaired by the combination. The following is the form:—

Take of Carbonate of Potassa, a drachm; Cochineal, a scruple; Boiling water, eight ounces. The dose is a tea-spoonful three times a-day.

Phar. Jour., March 1, 1844, p. 456.

27.—EFFECTS OF STARVATION ON THE SIZE OF THE HEART.

[In Dr. Chossat's experiments on the effects of inanition, he has arrived at some important conclusions which may be useful in our treatment of enlargement of the heart.]

Having ascertained that all the animals killed by starvation lost four-tenths of their weight, four-tenths of the natural substance of their bodies, it became a matter of importance to ascertain what organs of the body had been chiefly attacked to supply this loss. M. Chossat enters into long details on this point, comparing the weight of the different organs with those of the healthy animal, and thus arriving at an approximate conclusion. The fat, as might have been expected, first disappears, but as this is not one of the essential organs of the body, no attention need be paid to this. It is the muscular system which bears almost the whole loss. The heart is liable to be rapidly attacked, and conversely, experiences, under the effect of abstinence, a very great loss of weight. Its state might always be judged of from that of the muscles, and their state might be judged of from the appearance of the heart.

These researches of M. Chossat, prove that this softened state of the muscular system, far from depending on an inflammatory state, as is generally supposed at the present day, results, as he has so beautifully shown, from the agencies of life having attacked it, to supply the want of fuel to the respiratory function. These observations of M. Chossat also throw light on a fact never hitherto explained. In the process of training animals it has been a constant remark, that the treatment to which they are subjected causes a marked enlargement of the muscular structure of the heart. Now, if M. Chossat's experiments prove that when an animal is starved, the muscular structures of the body are those which chiefly conduce to supply the wastes of the system, and that the condition of the external muscles indicates that of the heart, we are warranted to conclude, that the condition of the muscular structure of the heart will increase with that of the muscles under training, and the one observation serves to illustrate and explain the other. Another important pathological appearance which it is necessary to notice, was, that the nervous system appeared to have lost none of its original volume or weight, though every other organ of the body was reduced both in volume and weight. *Edin. Med. and Surg. Jour., Jan., 1844, p. 159.*

28.—CONTAGION.

[Dr. Theophilus Thompson read a paper on this subject to the Medical Society of London.]

He commenced by remarking that the inherent difficulty of the subject

was the greater because no conventional usage had as yet fixed the acceptation of the words contagion and infection. He should use the term contagion to express the subtle material by which disease is communicated. A contagious disorder is one capable of producing such subtle material; an infectious substance, a substance retaining contagion, and an infected individual one imbued with contagion. After referring to the opinions of the anti-contagionists, and to the opposite extreme of those who have considered even phthisis, ague, and gout contagious, he observed that the existence of a contagious virus is not disputed in variola, syphilis, and hydrophobia, and is fairly recognized in some other diseases, such as measles and scarlet fever, for from nothing, nothing could be produced. Dr. Thompson then noticed the opinion that some contagions are alkaline, and to be neutralized by acids; others, depending on the presence of nitrogen, to be destroyed by chlorine; and mentioned the statement that carnivorous animals, in a confined space, eliminate nitrogen with a deleterious effect, but herbivorous animals simply carbonic acid; and he described the ingenious examination of the air of pestiferous ricegrounds, found by Moscati, of Milan, to contain a fœtid mucous substance, resembling that obtained from the wards of the hospital. He stated that moist still air was favourable to contagion, but that it was destroyed or checked by frost, and by *dry* heat above two hundred degrees, and often by storms, especially by the Harmattan; easily imbibed, and conveyed by cotton and woollen goods, not by wood, glass, metals, or silk; and he gave examples of its retention in woollen materials, and even in the walls of buildings. He was of opinion that the peculiar odour of contagious affections was probably associated with the virus, and that it was especially exhaled from the lungs and other mucous surfaces. He thought that the selection of particular races of men by certain parisites, corresponding with a similar selection by some contagious visitations, and the superiority of contagious diseases to ordinary laws, were favourable to the theory that the matter of contagion was organized and favoured in its development by the impaired vitality of the susceptible subject. The author proceeded to quote the opinion of various writers respecting the period of incubation of different contagions, and suggested that in scarlatina, measles, small-pox, and syphilis, the average period was perhaps about ten days, while in hydrophobia it varied from two weeks to two years. The infecting distance of scarlet fever and measles is greater than that of typhus, which does not ordinarily extend above three feet; while plague, perhaps, requires contact for its communication. Dr. Thompson thought puerperal women rather more susceptible than other patients to any contagion to which they might be exposed, and gave some melancholy examples in support of that opinion. He referred to moral, dietetic, and medical measures calculated to lessen susceptibility, and dwelt on the powers of belladonna as a prophylactic in scarlatina, as supported by his own observations, and by very extensive experiments on the continent.

Dr. Thompson concluded by enforcing the truth that no contagion could preserve its full virulence where free ventilation was effected, and that no district could be healthy where drainage and aeration were deficient. Owing to the neglect of these precautions our own country loses more subjects annually from fever than fell at Waterloo, and the duration of life in our second sea-port reaches only half its average. Medical men should take especial care to expose to free air the clothes they wear in the contagious chamber; they should studiously impress the truth that the minstrations of humanity are safer in the well-ordered sick-room than in districts where sanitary regulations are neglected, and should on the one hand endeavour to dissipate superstitious, paralysing fears, on the other to teach the limits and enforce the duty of a judicious, practical caution.

Dr. G. Bird also entered at some length into the question. He referred to some experiments of Professor Rossi, of Turin, on the blood of patients affected with an epidemic fever, made some few years ago. This gentleman had patients bled in the different stages of the affection, and having

subjected the blood thus obtained to the influence of galvanic action, obtained not only hydrogen and oxygen, but also cyanogen—an element which never existed in healthy blood. In connection with this fact, it was curious that a chemist of some celebrity had lately suggested that cyanogen might be the source of malaria. With respect to the influence of chlorine in the prevention of contagion, it would appear that this influence had its defined limit, for it had been found that vaccine virus, intimately mixed with hypochlorates, had, when inserted into the system, succeeded in producing cow-pock, which went through the usual stages completely. He referred to the views of Sydenham on contagion, lately advocated with much ingenuity by Liebeg, as worthy of attention.

Lancet, March 2, 1844, p. 772.

In Dr. Heaton's valuable reports of cases in University College Hospital, he reminds us of a symptom mentioned by Dr. Christison, which may often be of use to us in our diagnosis of diseases of the kidneys: it is that, except in cases of *diabetes mellitus*, a continued dropsical state, in connection with a large secretion of urine, may be regarded as a proof of the existence of granular disease of the kidneys. He explains the continuance of anasarca with an increased secretion of the watery parts of the urine in this disease, by considering that the diminished tenacity of the blood, from the diminution of its albumen and hæmatin, increases its tendency to transude.

Med. Gaz., Feb. 16, 1844.

29.—EFFECTS OF CAMPHOR.

M. Raspail in his valuable lectures on the physiology of health and disease, says on this subject—During the last five years, I have been in the habit of smoking and inhaling camphor, under the form of a cigar, both day and night; I have also placed every night, under my bolster, a certain quantity of purified camphor. My nights, instead of being agitated, have been passed in a calm and uninterrupted sleep. Indifferent dreams, recalling but the ordinary scenes of life, have succeeded to terrific nightmares, which used to torment me, almost every night, for at least a quarter of an hour. Whenever I awake, I chew from fifteen to twenty *centigrammes* (3 to 4 grains) at least of camphor, which I afterwards swallow, along with a small quantity of water; this sometimes amounts, in the course of the night, to as much as sixty *centigrammes* (12 grains) of camphor, which I have accustomed myself to swallowing; in the day-time, I often take a dose of similar strength; as an hygienic precaution, I also use frictions of camphorated spirits, when rising or going to bed, and whenever I perceive the least lassitude of spirit, or the slightest exhaustion of body. And with this inflammatory treatment according to the Brownian, the Rasorian, and physiological doctrines, I never was better in my life, nor, in fact, so well for a long time together; I have entered on a new kind of existence; I have, so to speak, shed the old skin of disease; I have grown young again in physical and moral strength; I am more disposed to labour, and am less inconvenienced than ever by it. I therefore consider myself justified in recommending others to partake of the benefits derived from this long and conclusive trial. My own family, as well as numerous patients, can bear out my testimony as to the immense advantages they have derived from this medicinal agent. I should add that constipation is, generally speaking, produced by medicines of this class; this constitutes the reverse to their good effects, to the activity which they excite in the digestive organs, and the appetite to which they give rise. *Med. Times, Nov. 25, 1843, p. 109.*

30.—ANTIDOTES.

Messrs. Bouchardat and Sandras, from their experiments, consigned in the Bulletin General de Therapeutique, conclude that the antidotes *to corrosive sublimate* are a mixture of the powder of zinc and iron; the persulphuret of

the hydrated peroxide of iron; *to copper*, powders of zinc and iron mixed; porphyrised iron; zinc filings; persulphuret of hydrated peroxide of iron; *to lead*, persulphuret of hydrated peroxide of iron; *to arsenious acid*, humid and dry hydrated peroxide of iron; humid persulphuret of hydrated peroxide of iron. This last named substance may be administered in cases where the exact nature of the poisons is not known. As to the *modus administrandi;* the powders of zinc and iron may be given in an electuary, and the peroxide of iron, and the persulphuret, in the form of jelly, in which they may be kept in the apothecary's shop. The doses—℥j. of the powders of zinc and iron are sufficient for ℈j. of acetate of copper; ℥ij. of the magma of the persulphuret for ℈j. of acetate of copper, and grs. vj. of arsenious acid; ℥iv. of the magma of the humid hydrated peroxide of iron, or ℥xxj. of dry hydrated peroxide of iron for grs. vj. of arsenious acid. Several glasses of tepid water must be given soon after their administration, and other means employed to produce vomiting. The sooner the antidote is given the greater the chance of success; from the effects of the acetate of copper the patient may recover, even should forty minutes elapse before its administration; but arsenious acid is dissolved more rapidly.

Med. Times, Nov. 25, 1843. p. 102.

31.—UNALTERABLE FULNESS OF THE VASCULAR SYSTEM OF THE BRAIN.

Dr. Watson adopts the views of Dr. Kellie and Dr. Abercrombie respecting the unalterable fulness of the vascular system of the brain; but contends, with them, that variations of the *relative fulness* of the different classes of vessels, or of the vessels of different parts of the brain, together with the *varying pressure* on the cerebral substance thence and otherwise resulting, may very plausibly account for many of the phenomena of cerebral diseases. We have nowhere seen this hypothesis stated with greater clearness or made more probable.

Dr. Watson says—But although the actual quantity of blood in the cerebral vessels may continue the same, it does not follow that the relative quantities contained in the arteries and veins should remain unaltered. . . . . In a very plethoric condition of the body, the arteries which go towards the head partaking of the general fulness, it is not difficult to conceive that there will be an impulse or effort *tending* to the propulsion of an undue quantity of blood into the arteries *within the cranium;* and under certain circumstances, actually producing a fuller state of those arteries at the expense of the cerebral veins. On the other hand, any sensible interruption of the return of the blood through the veins will virtually augment that impulse upon the arterial current which arises from the force of the general circulation. It is true that we cannot measure or weigh, so as to compare them together, the actual quantities of arterial and venous blood circulating at any period in the cerebral vessels. We never, therefore, can have any demonstrative proof that the kind of derangement, the alteration of balance that has just been supposed, does really occur; but as it evidently, in the nature of things, may occur, so many physiologists believe that it actually does take place, under various circumstances of disease. And taking for granted, not only the possibility, but the positive existence of such a derangement, we are enabled to explain many remarkable circumstances connected with the pathology of the brain which might otherwise be altogether mysterious and inexplicable. We can understand how it may happen that a person shall fall down insensible, become completely comatose, and perish, and yet, on the examination of his brain, there shall be found no trace of inflammation or of softening, neither extravasated blood, nor effused serum, nor any change that our senses are capable of estimating. . . . But there is another principle by which many of the same derangements that leave no vestige behind them in the corpse may, with *equal or greater probability*, be explained. I mean the principle of *varying pressure* upon the

nervous substance. Physiologists say that the cerebral matter is incompressible. Upon what grounds the opinion (which lies at the bottom of the whole of the foregoing doctrine) may rest, I know not: but whether the brain be compressible or not—whether, that is, it be or be not reducible by pressure into a smaller compass—it is clearly capable of having different degrees of pressure applied to it, and of being pressed out of its ordinary form. We shall see hereafter that by pressure exercised from within, by the distension of what are called the ventricles of the brain, the convolutions on its surface are sometimes flattened, and the natural furrows between them are nearly effaced. Pressure there certainly is in what I shall have to describe to you as *hypertrophy* of the brain. There must be considerable pressure on the nervous pulp when the blood is poured out within it from a ruptured artery in a cerebral hæmorrhage. But the phenomena noticeable when a portion of the skull has been removed by the trephine, show very clearly that the encephalon sustains pressure from varying states of the circulation during perfect health. The surface of the brain seen through the circular opening in the bone, is observed to pulsate, and to pulsate with a twofold motion. With every systole of the heart the surface protrudes a little, and it again subsides with the succeeding diastole. This shows that the tension of the arteries produced by every contraction of the ventricles of the heart, exerts a degree of pressure upon the contents of the cranium. . . . . It is certain, then, that whether the cerebral pulp yields to it or not, there is a constant alternation of a greater and a less compressing force exerted upon it, during life. . . It is equally certain that the compressing force may transgress its natural limits in either direction; may be too great or too little. The functions of the nervous centres may be perverted or lost when the pressure becomes excessive, or, on the other hand, when the pressure is insufficient. . . . The pressure may cause fatal coma, and yet no evidence of its operation be left in the dead brain; in cases of *permanent* disease with *occasional* symptoms, accidental circumstances may, from time to time, determine an undue amount of compressing force or a deficient amount.

Brit. and For. Med. Review, Jan., 1844, *p.* 127.

32.—TREATMENT OF DELIRIUM TREMENS.—By Dr. Watson.

Although Dr. Watson agrees with all practitioners of experience, that opium, in some form or other, is the grand remedy; yet he properly warns his readers that it is not to be given indiscriminately, or trusted to alone. In some cases it must be administered cautiously, if at all; in others it must be combined with depletion in some form; and in others, again, with strong drinks; while, generally, it must be combined with nourishment. In the most common class of cases the following treatment is certainly that which will be found most effectual:

The opium must be given in full doses; and it must be fearlessly repeated if the desired effect does not follow. If the patients pass many nights without sleep, they will die. I have tried various forms of opium; and I am quite satisfied with morphia.

Some persons, however, have not found it so successful as solid opium, or as the common tincture, laudanum. You may try the one or the other, or one after the other, if you please. No particular rules can be laid down that will suit all cases. After clearing out the bowels by a moderate purgative, you may give three grains of solid opium; and if the patient show no inclination to sleep after two or three hours have elapsed, you may begin to give one grain every hour till he does sleep. Or you may prescribe corresponding quantities of the acetate of muriate of morphia, or of laudanum, or of the black drop, or of Battley's sedative liquor. His room, meanwhile, should be kept dark and quiet. If he sleeps for some time he will awake calmer and more sensible, perhaps perfectly so; and you must withhold the remedy, or continue it in smaller or less frequent doses, according to the

circumstances of the case. Sometimes the opiate treatment alone is quite enough; sometimes it is not. You meet with patients who resist very large doses of the drug; but who presently sleep or become composed if you give some of their accustomed stimulus with it, "a hair (as the vulgar saying goes) of the dog that bit them;" if you put their opiate dose into a glass of gin or a pint of porter. Nervous *exhaustion* goes along with, and augments the nervous irritability. . . . . If you learn that, notwithstanding the intemperate habits of the patient, his appetite for food has continued unimpaired and his digestion sound, you will, I believe, generally find that good nourishing diet, strong broths, for example, and the opium will suffice for the cure. But if the powers and natural sensations of the stomach have been injured and perverted, as is too often the fact, then a temporary recurrence to the habitual stimulus will frequently be necessary; and it is well to ascertain in such cases what the stimulus has been, whether spirits, or beer, or wine, and to order it accordingly. Of course this is not to be continued after the patient has recovered from his delirium.

Brit. and For. Med. Review, Jan., 1844, *p.* 129.

33.—OLEUM SANTONICÆ, OR CHENOPODII AS AN ANTHELMINTIC.

[Dr. Monsarret, of Kibeggan, received a supply of this medicine from New York about three years ago, but only made use of it lately, when some obstinate cases, supposed to be owing to intestinal worms, came under his notice. He began with four to eight or ten drops on lump sugar or milk to a child, and so on in proportion. He says]—

Its effects surprise me, not having had much previous faith. In almost every case, I could observe innumerable quantities of lumbrici were discharged. In adult cases I have used it to the extent of half a drachm, or more, for several days, with success; then, as a precaution, prescribing the following draught:—

℞ Ol ricini 3vj.; ol. terebinth, 3ij.; spts. lavand. 3j.; Ess. M. pip. gtt. xx. M. Ft. haust.

Case of Bridget Daly, aged 38.—Of rather stout frame, but sallow complexion, her countenance anxious, and exhibiting much internal suffering. I attended her for a length of time as a dyspeptic, with its melancholy and discomforting train of symptoms, a disease, by the way, very common in Ireland, from the too constant use, I conceive, of farinaceous diet. After enjoining a strict regimen, and exhausting the list of bitter tonics, &c., &c., without relief, I at length thought of trying the oil, and having previously well freed the bowels, I ordered the following:—

℞ Ol. chenopodii, 3ss.; tereb. venet, 3ss. Mel. q. s. ut. ft. bolus. M. St. ii. in. die.

After the third dose, she brought me in a cloth a tape-worm, measuring four yards and a quarter long, which I have preserved. There are many other cases in which I have tried this remedy with complete success.

Medical Times, Dec. 9, 1844, *p.* 140.

34.—SELECTION FROM THE FORMULARY OF BIETT ON DISEASES OF THE SKIN.—(From the work of M. Cazenhave, translated by Dr. Burgess:—)

Internal remedies.—Subcarbonate of soda, half to one drachm; barley-water, one pint. Dose.—Four glasses daily. Use.—Lichen; prurigo; chronic diseases with itching.

Decoction of dulcamara.—Dulcamara, half an ounce; water, a pint and a half. Boil down to two-thirds. The quantity of the remedy may be increased to one ounce, or an ounce and a half. Dose.—Half a glass at first; then a glass, morning and evening. Use.—Lepra vulgaris; chronic diseases.

Decoction of orma.—Orma pyramidalis, four ounces; water, four pints; boil down to a half. Dose.—Two to four glasses a-day. Use.—Scaly diseases.

Syrup of fumaria, twelve ounces; syrup of viola tricolour, four ounces; bisulphate of soda, two drachms. Mix. [M. Biett often employed this mixture in cases of eczema, lichen, and several chronic diseases of the skin.] Dose.—Two spoonfuls a-day.

Syrup of fumaria, a pint; bicarbonate of soda, three drachms. Dose.—Two tea spoonfuls; one before breakfast; the other at bedtime. Use.—Eczema; lichen; prurigo.

Pearson's solution.—Arsenite of soda, four grains; water, four ounces. Dose.—From twelve drops to a drachm, or more. Use.—Most chronic diseases of the skin; eczema, impetigo, lichen; but chiefly in squamous diseases, lepra, psoriasis, &c.

Fowler's solution.—Arsenious acid, and carbonate of potass, of each seventy-eight grains; distilled water, a pint; alcohol, half an ounce. Use.—The same as Pearson's solution. Dose.—Three or four drops, gradually increased to twelve or fifteen.

M. Biett's solution.—Arsenite of ammonia, four grains; water, four ounces. Use.—Same as above. Dose.—Same as Pearson's solution.

Larrey's syrup.—Sudorific syrup, one pint; bichloride of mercury, hydrochlorate of ammonia, and extract of opium, of each five grains; Hoffman's liquor, half a drachm. *Dose.*—Half an ounce to two ounces. *Use.*—Syphilitic eruptions. Syrup of mezereon, two ounces; balsam of tolu, four ounces; subcarbonate of ammonia, half an ounce. *Dose.*—A spoonful, morning and evening. *Use.*—Constitutional syphilis.

Van Swieten's liquor.—Bichloride of mercury, eighteen grains; water, twenty-nine ounces; alcohol, three ounces. *Dose.*—A teaspoonful daily, in a glass of decoction of sarsaparilla. Each ounce contains a little more than half a grain. *Use.*—Secondary syphilis.

Powders. Pills.—Sublimed sulphur, magnesia, of each half an ounce. Make eighteen packets. *Dose.*—One daily. *Use.*—Chronic eczema; scaly diseases.

Proto-ioduret of mercury, twelve grains; extract of lettuce, two scruples. Make forty eight pills. *Dose.*—One to four. *Use.*—Syphilis. Or,

Proto-ioduret of mercury, half a drachm; extract of guaiacum, one drachm; extract of lettuce, two scruples; syrup of sarsaparilla, q. s. Divide into seventy-two pills. *Dose.*—One, and then two daily. *Use.*—Syphilis.

Bichloride of Mercury.—Extract of aconite, six grains; bichloride of mercury, two grains; marshmallows powder, eight grains. Make eight pills. *Dose.*—One to four. *Use.*—Syphilis.

Deuto-ioduret of Mercury.—Deuto-ioduret of mercury, six grains; marshmallows powder, half a drachm. Make thirty-six pills. *Use.*—The same. *Dose.*—Two or three daily.

M. Sedillot's pills.—Strong mercurial ointment, one drachm; soap, two scruples; mallows powder, one scruple. Make thirty-six pills. *Dose.*—Two or three daily. *Use.*—The same.

M. Biett's pills.—Mercurial ointment, powdered sarsaparilla, of each a drachm. Make forty-eight pills. *Use.*—The same. *Dose.*—One to four daily. Or,

Phosphate of mercury, half a drachm; extract of fumaria, one drachm. Make forty-eight pills. *Dose.*—One to two a-day. *Use.*—As before.

Aconite pills.—Extract of aconite, half a drachm; mallows powder, two scruples. Make forty-eight pills. *Dose.*—One or two morning and evening. *Use.*—Syphilitic eruptions; nocturnal pains.

Asiatic pills.—Arsenious acid, one grain; black pepper powdered, twelve grains; gum arabic, two grains; water, q. s. Make twelve pills. *Dose.*—One or two a-day.

Arsenite of iron. M. Biett.—Arsenite of iron, three grains; extract of hop, one drachm; mallows powder, half a drachm; orange flower syrup, q. s. Make forty-eight pills; each contains the one sixteenth of a grain. *Dose.*—One daily. *Use.*—The two preceding formulæ are chiefly used in

cases of chronic eczema and lichen; in the scaly diseases, lepra, lupus, and psoriasis.

Arsenite of soda. M. Biett.—Extract of aconite, one scruple; arsenite of soda, two grains. Make twenty-four pills. *Dose.*—One or two daily. *Use*—As above.

Hydrochlorate of Iron.—Hydrochlorate of iron, twelve grains; gentian, in powder, twenty-four grains. Make twelve pills. *Dose.*—One to four daily. *Use.*—Employed with success by M. Biett in scrofulous eruptions.

Sulphate of Iron. M. Biett.—Sulphate of iron, one scruple; powdered mallows, twelve grains; syrup q. s. Make twelve pills. *Use and dose* the same. *Lond. and Ed. M. J. of M. S., April*, 1844, *p.* 336.

35.—BELLADONNA IN PAINFUL MENSTRUATION.

In a discussion in the Medical Society of London, Dr. G. Bird drew attention to that form of dysmenorrhœa which was unaccompanied by organic change or attended by the discharge of shreds from the uterus, and in which the pain was referred to the lower part of the abdomen, immediately over the uterus. In these cases he had found belladonna, properly prepared, of the greatest efficacy, When the patient was of a leuco-phlegmatic habit, pale and chlorotic in appearance, he ordered five grains of extract of belladonna and twenty grains of sulphate of zinc, to be divided into twenty pills, and of these one was ordered to be given immediately on the accession of pain, and repeated every two or three hours, until the pain ceased. When the patient was plethoric and of full habit, he substituted ten grains of ipecacuanha for the zinc, and the pills were given in the same manner. In the intervals of menstruation purgatives were administered, with medicines tending to improve the general health. This treatment he had scarcely ever known to fail.

Mr. Pilcher has found belladonna and ipecacuanha very serviceable in cases of hooping cough. In neuralgia of the face, morphia and quinine, and of the breast, belladonna or the liquor cinchonæ, were the best remedies.

Dr. Waller has used belladonna alone, both externally and internally, in cases of dysmenorrhœa, with temporary relief. He applies it externally in the form of a plaster of the simple extract, spread on adhesive plaster. He has seen the belladonna in conjunction with hydrocianic acid, in the proportion of one quarter to half a grain of the extract to three minims of Scheele's preparation, four or five times a day, of great benefit in cases of severe gastrodynia. He has found the belladonna also of great service in various anomolous neuralgic pains.

Dr. Garrard has used belladonna in the forms mentioned by Dr. Bird, and in the second set of cases, attended by plethora, has, instead of the ipecacuanha, often usually substituted colchicum. Belladonna and quinine he has found of service in cases of gastrodynia.

The President found the belladonna plaster very useful in cases of subcutaneous painful tubercle. *Lancet, March* 23, 1844, *p.* 27.

36.—COPAIVA SUGAR-PLUMS.

Take balsam of copaiva, 460 grains; calcined magnesia, 18 grains. Intimately mix these ingredients, and in about twenty-four hours the mass may be divided into seventy-two parts, which are to be rolled out between the fingers. These are to be covered with gum and sugar prepared in the following manner: 1st. A solution of gum arabic, containing a third of its weight of gum; 2d. White sugar in powder. Put the copaiva pills into a tinned basin, of a hemispherical form; pour in a little of the solution of gum, to moisten them; then add some of the powdered sugar, and turn the basin so as to get the pills covered all over; repeat this operation three times, and afterward place the sugar-plums on a horse-hair sieve, in a stove heated to 77° Fahr. The temperature of the basin, during the covering of the pills, should not be above 60° Fahr.—*Journal de Pharmacie.*

Pharm. Jour., April 1, 1844, *p.* 500.

37.—BLOODLETTING,

And other general antiphlogistic remedies, if they do not remove local inflammation, may render its products more injurious, by lowering their plasticity, and approximating them to tuberculous and other aplastic deposits. Thus chronic inflammation continuing after the full application of the antiphlogistic treatment, almost surely tends to produce degenerated changes of structure, over which remedial art has little power. In connection with this subject, therefore, we see how desirable it is that inflammations should be removed before they become chronic; and when there is a risk of their becoming so, it should be an indication to improve the condition of the blood by a tonic and nutritive plan, at the same time that local antiphlogistic measures may be necessary for the lingering inflammation.—*Dr. Williams.* *Brit. and For. Med. Rev., April, 1844, p. 483.*

38.—NEW RESEARCHES ON THE URINE IN A STATE OF HEALTH AND DISEASE.—By M. Lehmann, of Leipsic.

M. Lehmann's experiments on urine are chiefly valuable as having been made on himself, and as exhibiting the different composition of that fluid during an animal diet, a vegetable diet, a mixed diet, and a non-azotized diet. On the mixed diet he continued fifteen days, ate and drank moderately, but abstained from all fermented liquors. The whole urine was each day collected and examined. The result is stated below. He took an exclusive animal diet for twelve days, consuming thirty-two eggs each day. The whole quantity of urine passed daily was examined each day, and the result is stated below. A purely vegetable diet was also continued for twelve days, but the non-azotised diet was only taken for two days. In the table both the quantities of solid matter passed daily are represented by grammes (15 grains), and the proportionate amount of salt and animal matter in that quantity of solid matter.

	Solid Matter.	Urea.	Uric Acid.	Lactic Acid and Salts.	Extractive Matters.
Mixed diet,	67.82	32.498	1.183	2.257	10.489
Animal diet,	87.44	53.198	1.478	2.167	5.145
Vegetable diet,	59.24	22.481	1.021	2.669	16.499
Non-azotised diet,	41.68	15.408	0.735	5.276	11.854

It is interesting to remark on the above experiments, that, during the twelve days M. Lehmann was on animal diet—taking daily 30.16 grammes of azote, no less than 25.623 grammes of this gas was excreted by the kidneys. The author draws the following conclusions from his experiments :—

1. Animal aliments increase the solid matters of the urine; vegetable substances, but especially non-azotized aliments, on the other hand, diminish them.

2. Although the azote is a product of the decomposition of the organism, its proportion in the urine depends on the kind of food taken, seeing that food rich in azote increases greatly the amount of that which appears in the urine. In my experiments, the proportion of urea to the other solid matters was as 100 to 116 for the mixed diet; as 100 to 63 for the animal diet; as 100 to 156 for the vegetable diet; and as 100 to 170 for the non-azotized diet.

3. The quantity of uric acid depends less on diet than on other circumstances. The observed differences were too small to allow anything to be attributed to the diet.

4. The compounds of proteine, and, consequently, the azote of the food, are absorbed in the intestinal canal. What is not used for the wants of the system, is thrown off by the kidneys in the form of urea and uric acid. The kidneys are the only organs by which the system gets rid of its excess of azote.

5. The urine contains quantities of sulphates and of phosphates proportioned to the quantity of azotized matters which have been absorbed. The

proportion of these salts increases remarkably by the use of the nearly pure compounds of proteine.

6. In the same circumstances the quantity of extractive matter diminishes; but its amount is increased by the use of a vegetable diet—a fact which proves the influence of vegetable diet in the production of these matters in the urine.

7. During an animal diet the quantity of lactic acid diminishes, but then the greater portion of this acid is in a free state. The contrary happens during a vegetable diet; the lactic acid is in greater quantity, but in union with bases. During the use of a non-azotized diet most lactic acid is produced, but then it is in union with ammonia. From this it may be concluded that the lactic acid excreted with the urine is, for the most part, formed of non-azotized aliments which have been imperfectly assimilated. A part, however, may be produced from the decomposition of azotized matters of the system or of the food.

8. The kidneys do not only secrete certain constituent atoms of organs which have become unfitted for the purposes of life, but also the excess of nutritive matters absorbed into the system.

Edin. Surg. Jour., April, 1844, *p.* 496.

39.—MUSK IN CERTAIN CASES OF DELIRIUM.

It is M. Recamier, we believe, who has most strongly advocated the use of this powerful antispasmodic in certain forms of delirium, occurring in the course of various febrile and inflammatory diseases. When pneumonia, as in certain constitutions, and in certain epidemics, is accompanied with marked symptoms of cerebral disturbance—a very embarrassing complication—the use of musk, either alone or in combination with calomel, has been often found to be of decided advantage. It is also very useful in the delirium which not unfrequently attends the course of Erysipelas, and several other exanthemata; more especially in small-pox, during the maturation and desiccation of the eruption.

Dr. Roche, of Strasburg, has recently published several very instructive cases in illustration of this practical point. The first was one of erysipelas of the face and head; the second of gangrenous sore throat; the third of scarlatina; and the fourth variola. In all these, the musk appears to have acted very beneficially. He adds: "I have employed it also in two cases of furious mania; the violent agitation was arrested; but no other good was produced. It completely failed in a case of grave typhoid fever, and also in one of acute bronchitis, accompanied with delirium, which occurred in a middle-aged man of very intemperate habits." He closes his observations with the following general remark:—"It appears to me that the administration of musk is indicated whenever, in the course of acute diseases, delirium supervenes without any distinctly appreciable cause, and the severity of which is not commensurate with that of the primary disease. In very many cases, I have had the satisfaction of witnessing cures, which I could not certainly have anticipated before my acquaintaince with this most valuable remedy. The first effect, which it usually produces when successful, is to induce a quiet refreshing sleep, and a general tranquilizing influence over the entire body: sometimes it induces slight nervous twitchings in the eyelids, the extremities, &c."—*Journal des Connaiss. Med. Chir.*

Remarks.—Musk is unquestionably one of the most potent, and least fallible anti-spasmodics that the Pharmacopœia contains: the only drawback to its general use is its expense. Fortunately assafœtida, galbanum, and good castoreum may very generally be substituted for their more costly analogue. In all cases of nervous agitation, unconnected with plethoric and inflammatory excitement, this class of anti-spasmodic medicines may be used with advantage. Camphor also is a very potent member of the same family; and few compounds are more beneficial than pills composed of musk or assafœtida and camphor—to which a few grains of calomel, and also

some extract of henbane, may often be most judiciously added. We have witnessed most pleasing effects from this formula in several cases of puerperal mania.—*Rev.* *Med. Chir. Rev., April*, 1844, p. 511.

40.—ELECTRICITY IN POISONING BY LAUDANUM.

Mr. Corfe, of the Middlesex Hospital, has related an instance of the good effects of electricity under these circumstances. A man was admitted, having taken an ounce and a half of laudanum on the preceding evening, six hours previously. "In the first instance I ordered the administration of the stomach pump, at which period, to all appearances, he was a lifeless corpse; the pupils were contracted to a pin-hole in size; the pulse was intermitting, and not more than 40; the respirations convulsively performed at intervals of half a minute; the face livid, and the extremities bluish and cold. After the stomach had been relieved of its contents, green tea, with ammonia, was injected therein; flagellation with thin splints and wet towels, the cold douche, turpentine stupes and sinapisms to his calves and abdomen, were applied in succession, without the least improvement in his condition. The bladder was relieved of six or eight ounces of light coloured urine by the catheter. I then thought of a most wonderful remedy, which was attended with extraordinary success; I allude to the electro-magnetic battery, conjointly with electricity, which was set to work upon him soon after four o'clock. The pulse became more steady, firm, and frequent; the respirations more indicative of resuscitation. Our powerful electrical machine was now got into full play before a large fire, and the jar filled, when some brilliant sparks and strong shocks were occasionally passed through his head, spine, thorax, and abdomen."—*Lancet, January* 27, 1844.

The result of this was, that the man opened his eyes, and his mouth too, abusing the operators for a pack of rascals who were "trying specimens" on him. But incomparably the most satisfactory effect was produced by giving him a shock on the tip of his nose. To use a phrase of the ring, he *rallied* wonderfully under this—a hint worth taking.

Med. Chir. Rev., April, 1844, p. 544.

41.—ANTIDOTES OF CORROSIVE SUBLIMATE, COPPER, LEAD, AND ARSENIC.—By MM. Bouchardat and Sandras.

By means of numerous experiments, first made in the laboratory and then repeated on dogs, MM. Bouchardat and Sandras have arrived at many interesting results relative to the antidotes of corrosive sublimates, copper, lead, and arsenic. All these are detailed at length in their long papers on the subject. Their conclusions were, that the following substances may be regarded as antidotes, and employed as such in medicine:—

As antidotes for corrosive sublimate.—A mixture of zinc and iron filings; or powder of iron reduced by hydrogen; or the moist persulphuret of the hydrated peroxide of iron.

As antidotes for copper.—A mixture of zinc and iron filings; iron reduced by hydrogen; porphyrized iron; zinc filings; or the persulphuret of the hydrated peroxide of iron.

As an antidote for lead.—The moist persulphuret of the hydrated peroxide of iron.

As antidotes for arsenic.—The moist hydrated peroxide of iron; the dry hydrated peroxide of iron; and the moist persulphuret of the hydrated peroxide of iron.

These experienced chemists add the following reflections:—This last preparation, the persulphuret of the hydrated peroxide of iron, possesses this superior advantage over all the rest, that it changes the nature of all the four poisons above noticed, and is especially applicable in those cases where we have not had time to find which of the poisons has been taken. As to the manner of administering these antidotes, and the doses which it

is necessary to administer, the simplest means appear the best. The powders of zinc and iron may be suspended in any electuary, or they may be swallowed in wafer paper. The magma of the hydrated preparations of iron may be swallowed in the form of jelly, in which they are procured from the druggists. Several draughts of lukewarm water ought to follow the antidote, and the fauces be tickled with a feather, to excite vomiting and the expulsion of the poison. The efforts at vomiting scatter more effectually over the stomach the antidote which is administered. As to dose, the experiments proved that 100 grains of the powder of iron or of zinc sufficed to prevent any bad effects from 15 grains of the acetate of copper. Fifteen drachms of the moist magma of the persulphuret were required to produce the same effect with the same dose (15 grains) of the acetate of copper. To act as an antidote to 4½ grains of arsenious acid, 15 drachms of the moist magma of the persulphuret, or 30 drachms of the moist hydrated peroxide of iron, or 20 drachms of the dry hydrated peroxide of iron, were required. With regard to the time when these antidotes can be administered with advantage, in so far as the acetate of copper is concerned, the lapse of 40 minutes from the time of swallowing the poison ought not to be regarded as a sufficient reason for not administering the antidote; but arsenic is more quickly absorbed. Nevertheless, the antidote should always be administered, because, though it will not neutralize what is absorbed, it will prevent its further absorption, by decomposing what remains in the stomach.

Edinburgh Med. and Surg. Jour., April, 1844, *p.* 497.

42—THE HÆMOSPASIC METHOD OF TREATMENT.

Many medical men may perhaps know the meaning of the word *Hæmospasia*, although the merits of the practice, which it denotes, have been canvassed at great length some years ago in the Academy of Medicine, and valuable reports from the pens of MM. Magendie and Serres have been made, on two different occasions, upon the subject. The Monthyon prize has been twice awarded to the talented author of the discovery, M. Junod; and the Administrative Council of the Metropolitan Hospitals have expressed their marked acknowledgment of the great benefits which he has bestowed by his discovery on therapeutic medicine. He has uniformly proceeded with a truly scientific caution in introducing his new remedy to public notice. Not content with trying it on numerous occasions in his own practice, he has sought the opinions of his brother-practitioners, and solicited their frank and unbiassed judgment. In this respect, he has acted very differently from certain medical men of our times, whose only ambition seems to be to win popular applause, and a rich harvest of fees. The very quiet and unobtrusive course, which M. Junod has followed upon all occasions, will partly account for the comparatively little attention that has been paid to his ingenious discovery.

Hæmospasia is a means of producing a powerful *revulsion* of the blood from one part, and an equally powerful *derivation* of the blood to another part, of the body, by removing the atmospheric pressure from a large extent of surface, as from one or both extremities at the same time. It is, therefore, so to speak, quite the same as dry-cupping; only on a large scale. "To produce an intense *raptus* of the blood from the deep-seated to the superficial parts of the body, to dissipate congestions, to counteract morbid fluxionary accumulations, and to relieve any organ or organs that may be oppressed with a surcharged circulation—such is the aim and object of the new therapeutic agent. By its means we are enabled to withdraw, or displace, or accumulate, or concentrate a part of the mass of blood, according as the varying circumstances of the constitution, age, existing disease, and so forth, may render expedient."

In 1835, M. Magendie alluded to its great utility as a certain method of instantaneously attracting or *deriving* towards the extremities of the blood, which would otherwise become congested in the viscera of the great cavi-

ties of the body; and this, too, without causing any direct loss of the vital fluid. That the remedy is one of no ordinary activity, is sufficiently evidenced by the immediate effects which it often produces. The face is rendered pale; the pulse becomes slower than it was before; at times there is a tendency to syncope; and often there is a good deal of disturbance of the gastric and intestinal function. All these symptoms are referable to the powerful derivation of the blood from the heart and great blood vessels towards the extremities of the body.

As patient's usually express their feelings, under the operation of remedies, much better than any medical writer can describe them, it is always well to note such observations down at the time. One said that, when the *hæmospasic* apparatus was applied, he felt as if he was quite deprived of his blood; another compared the sensation as if he had to bear the weight of ten foot-baths all at once; while a third observed that his life seemed to descend to his feet.

Hæmospasic revulsion has been employed with useful effects in a variety of inflammatory and congestive diseases. When the object of the physician is to divert the flow of blood to any internal part, and to relieve the accumulation, without having recourse to sanguineous depletion, no remedy is more worthy of trial than M. Junod's apparatus. How important it is to be able to do this in many cases, where the patient is of a delicate constitution, and where the system, if once much reduced, will inevitably be long of recovering its lost energies! Under such circumstances as these the hæmospasic method is a truly precious resource. The blood is withdrawn from the suffering part, and yet not a drop of it is lost. It has, however, been objected that, when the apparatus was removed, there would be forthwith a violent reaction, and that then the blood would be propelled with greater force than ever to the seat of the disease, so as perhaps to produce a more intense congestion there than had existed even at the first. But this objection, though seemingly plausible, is contradicted by the results of experience, for as the hæmospasic injection or plethora takes place chiefly in the capillary vessels, the tumefaction thereby induced is found to subside very slowly and gradually. We have seen the apparatus applied in a great many cases, and have never yet observed the slightest inconvenience from its adoption in a single instance. As a matter of course, judgment and experience are as necessary for rightly using this, as they are for the employment of any other potent remedy. M. Junod having made no secret of his method, it has been indiscriminately recommended by not a few practitioners in this metropolis, who are ever on the lookout for any novelty, and who are much more likely to be adepts at *drawing* the fees than the blood of their patients. We cannot do better than close these remarks with a paragraph from his little work, entitled *Methode Hæmospasique et Apparcils du Docteur Junod*, 1843, *Paris*:—"It is not a question—and this remark I make most emphatically—of a secret remedy, of a mercenary industrialism, or of any mere speculation whatsoever. It is a remedial method, based on the acknowledged laws of animal physiology, and tested by numerous experiments and observations. I address myself only to men of education and practical knowledge, and solicit of them a patient and cordial examination of my assertions. With confidence I may say, alike to my professional brethren and to the patients, to the most censorious physician as to an enlightened public, come and see, examine for yourselves."—*Gazette Medicale.*

Remarks.—On this subject, Dr. Johnson remarks, that the hæmospasic method is, in his opinion, "rather an ingenious suggestion than a useful remedy. In certain cases of chronic maladies, it may doubtless be used with advantage, just as any of the other medical novelties of the day not unfrequently are; but it is not likely ever to be so popular as they, from the inconvenience of its application, and the uncomfortable feelings which it often produces at the time. Let it not be supposed that we class M. Junod with the *puffing* doctors of the day—whether their panacea be cold water or steam baths, pills by the dozen or fractionary parts of a grain. He is far

too honourable and honest a person to descend to anything unworthy of a professional gentleman. Nevertheless, we must protest against any laudation of his blood-attracting method in one or two diseases, in the treatment of which we find that it is recommended both by himself and others. For example, we are repeatedly told that it may supersede the employment of blood-letting in many cases of inflammation. What!—is there no other morbid element in this generic disease, save and except only the existence of a greater quantity of blood in the affected part than usual?—and is the human body so entirely a mere hydrostatic machine that we can lessen or increase at will the actual quantity of blood in any part by simply regulating the amount of the atmospheric pressure upon it? Such a doctrine savours, we think, more of the seventeenth than the nineteenth century; more of the times of Borelli than those of M. Andral. Has not the latter gentleman, within the very last twelve months, been teaching his countrymen—for, thanks to British sagacity, the instruction was not required on this side of the Channel—that there is an intimate and essential change in the proportion of the constituents of the blood in all inflammatory diseases? The relative proportion of the fibrine is considerably higher than in health, while that of the red globules is but little, if at all, affected. If such be the case, does it not follow, as an obvious inference, that the merely diminishing of the actual quantity of blood in any part, can never reasonably be expected to cure an inflammation of that part? We have often—long before the publication of Andral's recent researches of hæmatology—urged this argument, as one of decisive and insuperable force, against the Broussian doctrine of recommending excessive bleeding in Typhoid fever, and other falsely-called inflammatory diseases. It is not the quantity of the blood, so much as its altered quality, that is at fault, alike in the pyrexæ and in the phlegmasiæ; and it is only by paying due attention to the changes in the condition of the fluids, as well as of the vital forces which move them, that a safe and rational system of therapeutics can be established. Such is the basis on which modern humoral pathology must be built."—*Rev.*

Med. Chir. Rev., Jan., 1844, *p.* 231.

43—TOBACCO TAKEN MODERATELY, &c.

Tobacco taken moderately is a condiment, to which some people inure themselves. Its modes of use are by smoking, by chewing, and by snuff taking; in whatever form it is employed, the tobacco acts evidently, by property, the base of which is formed by ammonia. In fact, if we moisten common tobacco with a little ammonia, we give to it a flavour which increases its value. Pound some walnut leaves with potass in a heated mortar, and then place them in a drying stove, and you will have a powder very similar to tobacco, for the purpose of smoking, and which has even a stronger flavour, especially if a few drops of ammonia be added to it; and there is every reason to believe that common tobacco is thus adulterated to a great extent. The walnut leaves may be replaced by those of the potato, henbane, hellebore, aconite, by the grains of *elaterium* and of colocynth, &c.—*M. Raspail.* *Med Times, Oct.* 29, 1843, *p.* 43.

44.—INFREQUENCY OF PHTHISIS IN MARSHY COUNTRIES.

At a meeting of the Academy of Medicine, on the 7th of November, a letter was read, addressed to the President by M. Nepple, on the infrequency of phthisis in marshy districts. After being read by the secretary, it was referred to the committee appointed to inquire into the antagonism supposed to exist between phthisis and marsh-fevers.

M. Olliver (of Angers) requested the attention of the academy to this letter, which seemed to him to contain important facts. It confirmed what Brera said, some years ago, on the infrequency of phthisis in Venice, which he, too, attributed to the emanations from the lakes.

During Dr. Olliver's stay at Venice, he endeavoured to verify this fact;

and he found that there were not more than seven or eight phthisical patients among twelve or fourteen hundred annually admitted into the hospitals of the town. Almost the whole of the remainder were suffering from intermittent fever or rheumatism.—*Gazette Medicale, Nov* 11. 1843.

Med. Gaz., Dec., 1, 1843, *p.* 237.

[Some very remarkable cases confirming the above will be found in the "New York Journal of Medicine and Surgery for January, 1840, p. 73," and an abridged account of the same will be found in Article 9, of Retrospect, No. 1. This view of the case, however, is not agreed to by every one, as will be seen in a note addressed to the *Gazette Medicale*, by Dr. Gouzee, chief physician to the Military Hospital, Antwerp, who says]—

The partisans of this opinion affirm that phthisis is unknown in countries where marsh miasma reigns. This may be true with some, but certainly is not the case at Antwerp, where, though intermittent fever is endemical, phthisis is very prevalent. Thus, from 1834 to 1842, of 453 deaths at the Military Hospital, 123 were caused by phthisis, or one in three and two-thirds. During the first six months of 1843, of 17 deaths, 9 were from phthisis, or more than one-half, though intermittent fever was more prevalent than usual. Moreover, no doubt can exist as to the nature of the disease, the *post-mortem* examinations having demonstrated the existence of tubercles. The same remark is applicable to the inhabitants of the town; therefore, the law announced by Dr. Boudin is not without an exception; for in Antwerp, phthisis and intermittent fever reign simultaneously, and the one does not prevent the development of the other. *Med. Times, Dec.* 16, 1843, *p.* 144.

45—BLISTERING BY NETTLES IN MEASLES.

M. Trousseau recommends the free application of nettles to the surface of the skin in cases where measles or other eruptive diseases have receded, and lead to the production of severe symptoms. He has seen this means succeed when every other had failed. In the case of a girl on whom the eruption of measles disappeared, producing a severe attack of bronchitis, leeches and active emetics failed to bring back the eruption or ameliorate the symptoms. Her whole body was then freely threshed with a bunch of nettles, and, within a few hours after, the eruption had fully returned, and with it every disagreeable symptom disappeared.

Ed. Med. and S. J., April, 1844. *p.* 488.

46—ACTION OF DIFFERENT MEDICINES ON THE MENTAL FACULTIES.—By Professor Otto.

All stimulants and exciting medicines increase the quantity of blood that is sent to the brain. If this quantity exceeds a certain amount, then most of the faculties of the mind become over-excited. Nevertheless the degrees of this action is observed to vary a good deal in different cerebral organizations; and it is also found that certain stimulants exercise a peculiar and characteristic influence upon special or individual faculties. Thus ammonia and its preparations, as well as musk, castor, wine, and ether, unquestionably enliven the imaginative powers, and thus serve to render the mind more fertile and creative. The empyreumatic oils are apt to induce a tendency to melancholy, and mental hallucinations. Phosphorus acts on the instinct of propagation, and increases sexual desire; hence, it has often been recommended in cases of impotence. Iodine seems to have a somewhat analagous influence; but then it often diminishes, at the same time, the energy of the intellectual powers. Cantharides, it is well known, are a direct stimulant of the sexual organs; while camphor tends to moderate and lull the irritability of these parts.

Of the metals, arsenic has a tendency to induce a lowness and depression of the spirits; while the preparations of gold serve to elevate and excite them. Mercury is exceeding apt to bring on a morbid sensibility, and an inaptitude for all active occupation.

Of narcotics, opium is found to augment the erotic propensities, as well as the general powers of the intellect, but more especially the imagination. Those who take it in excess, are, it is well known, liable to priapism. In smaller doses, it enlivens the ideas and induces various hallucinations, so that it may be truly said that, during the stupor which it induces, the mind continues to be awake while the body is asleep. In some persons, opium excites inordinate loquacity; Dr. Gregory says that this effect is observed more especially after the use of Muriate of Morphia. He noticed this effect in numerous patients, and he then tried the experiment on himself with a similar result. He felt, he tells us, while under its operation, an invincible desire to speak, and possessed, moreover, an unusual fluency of language. Hence he recommends it to those who may be called upon to address any public assembly, and who have not sufficient confidence in their own unassisted powers.

Other narcotics are observed to act very differently on the brain and its faculties from opium. Belladonna usually impairs the intellectual energies; Hyosciamus renders the person violent, impetuous, and ill-mannered. Conium dulls and deadens the intellect; and Digitalis is decidedly anti-aphrodisiac. Hemp will often induce an inextinguishable gaiety of spirits; it enters into the composition of the intoxicating drink which the Indians call *bauss*. The use of the *Amanita Muscaria* is said to have inspired the Scandinavian warriors with a wild and ferocious courage. Tobacco acts in a very similar manner with opium, even in those persons who are accustomed to its use; almost all smokers assert that it stimulates the powers of the imagination.

If the psychological action of medicines were better known, medical men might be able to vary their exhibition, according to the characters and mental peculiarities of their patients. The treatment of different kinds of monomaniacal derangement also might be much improved; and it is not improbable but that even a favourable change might be wrought on certain vicious and perverse dispositions, which unfortunately resist all attempts at reformation, whether in the way of admonition, reproof, or even of correction.—*Zeitschrift fur die gesammte Medicin.*

Med. Chir. Rev., April, 1844, *p.* 489.

47.—INCONTINENCE OF URINE AND ENURESIS CURED BY ELECTRICITY —By M. Froriep.

Incontinence of urine frequently comes on after severe rheumatic and gouty affections. In many cases, these affections have been referred to affections of the spinal marrow; but M. Froriep denies this, as any affection of the lower portion of the cord, which would cause paralysis of the bladder, would at the same time produce some paralytic symptoms in the voluntary muscles of the lower extremities. He refers it, therefore, to a local affection of the bladder itself, to an affection of the nerves, or of the muscular fibre, or of both. Taking this view of the question, he resolved to try the effect of the local application of electricity. A metallic stylet, terminating in a button point, is introduced into the bladder, with the aid of a gum catheter, which envelopes the whole but the button point. The handle of the stylet is then connected with one of the wires of an electro-galvanic battery, while the extremity of the other wire is pressed against the pubes. The electric current is passed through the bladder for a quarter of an hour each day. The bladder in general retains the urine better the very first day after the application; but the application requires to be renewed at intervals, till the bladder recovers its full power. Several cases are related of this affection, in people from thirty to forty years of age, in whom the affection was completely removed by the electricity.

M. Froriep has found this agent equally powerful in removing the weakness on which the enuresis of children depends. In some cases he found one application of electricity remove the disease; in others, it required to be repeated at intervals. He found that, in weakly children, a few doses of iron confirmed the cure. *Ed. Med. and Surg. Journ.*, 1844, p. 491.

48.—ELECTRICITY IN POISONING BY STRYCHNINE.

The following statement, *if true*, is very remarkable, and deserving of further investigation:—

M. Duclos has instituted a series of experiments on rabbits, dogs, and guinea-pigs. He poisoned these animals with strychnine and brucine, and then electrified them; and found that, on application of the negative electricity, excited by means of an electrical machine, the symptoms of poisoning subsided, and the animals were saved; the positive electricity, on the contrary, increased the muscular contraction produced by the poison, and hastened death. Animals which had been poisoned with arsenious acid could not only not be saved by electrifying tehm, but were killed sooner, whether positive or negative electricity was employed.

Lancet, April 13, 1844, *p.* 102.

49.—ACETOUS EXTRACT OF CANTHARIDES.

M. Soubeiran has published the formula for a blistering preparation, which is a good deal used in many parts of Germany. It is prepared by digesting with a gentle heat four parts of coarsely powdered cantharides, one part of concentrated pyroligneous acid, and sixteen parts of alcohol, filtering the mixture, and slowly evaporating the fluid. The product has the consistence of butter, and if smeared on a piece of paper, and applied to the skin, will be found to raise a blister in a short space of time. The consistence of this preparation, and more especially the presence of the acetic acid, suffice to prevent the cantharadine from crystallizing—a result which always takes place with the ethereal extract, and constitutes a great objection to its use.

Medical Times, Dec. 16, 1844, *p.* 153.

50.—PREPARED SEVUM.

Under this title a very elegant and valuable preparation has been for some time before the public. It is employed in the manufacture of mercurial ointment (unguentum hydrargyri), and possesses the singulur property of *immediately* extinguishing the globules of metallic quicksilver, and producing the necessary degree of oxidation, without at all interfering with the *intentions* of the Pharmacopœia. The process hitherto followed for the preparation of this ointment has long been complained of as *tedious* and *unsatisfactory*. The operation of "*killing the silver*," as it is technically called by the manufacturer, was frequently very imperfectly accomplished, and, at other times, various ingredients were added, which not only injured the quality of the article, but totally altered its *nature* and *medical virtues*. I have examined various samples of the "*prepared sevum*," and find it perfectly free from any acid, resinous, or metallic addition, that might be an objection to its use. It resembles, in every point, very pure suet, as its name implies, and produces a finer article of ointment, both as to colour and quality, than by the old and laborious process of patient trituration. I have now, for some time, recommended the use of ointment, prepared with this article, and have found it more *regular* in its operation, and slightly stronger, than that made on the *old* plan. Several of my professional friends also tried the ointment with the same resuls.

Strong Mercurial Ointment.—℞. Prepared sevum, 1 oz. or part; quicksilver, 7 do.; mix in a warm mortar, then add lard (softened with heat), 13 ounces, or parts, mix well.

Weak Mercurial Ointment.—℞. Prepared sevum, 1 oz. or part; quicksilver, 7 do.; lard (softened) 3½ lbs., or 56 do., as before.—*Cyc. of Practical Receipts.* *Med. Times, Dec.* 23, 1844, *p.* 165.

51.—THERAPEUTIC PROPERTIES OF THE CHLORIDE OF SILVER.

The chloride of silver, which was formerly recommended by Poterius, as an anthelminthic and hydragogue; by Hoffmann, as an evacuant of phlegm in dropsy and melancholy; by Tachenius, as an excellent remedy, combined with the sulphuret of antimony, for mania, melancholy, and epi-

lepsy; and lastly, in modern times, by Professor Serres, for syphilis—has been employed in various cases by Dr. Perry. He declares that he has found it preferable to the nitrate of the same metal, inasmuch as its effects are more certain, its application easier, and it is less disposed to decompose, and free from any disagreeable taste. The chloride of silver acts best in the form of pills; nevertheless, for young children, it can be prescribed in the form of powders, or suspended in some appropriate syrup. The use of this salt inwardly is not attended with the risk of the green or brown discolouration of the skin, as with nitrate of silver. Dr. Perry has prescribed the chloride for epilepsy; he has also given it in chronic dysentery; under its influence the number of stools and other symptoms have diminished; he has used it also in suppressed menstruation; and lastly, in the secondary form of syphilis.—*Amer. Med. Intelligencer.*

Prov. Med. Jour., Dec. 2, 1843, *p.* 182.

52.—TREATMENT OF SCIATICA BY IRRITATION OF THE FOOT.

M. Caffe, at a meeting of the Societé Médicale d'Emulation, on October 3d, said that M. Quadri, the celebrated professor of ophthalmology, in the University of Naples, told him that Dr. Petrini, director of the surgical clinique of Aquilla, a town of the Abruzzi, published about six years ago a memoir, in which he made known a mode of treatment for sciatica. This mode consisted in applying an olive-shaped cautery, heated to a white-heat, between the little toe of the diseased limb and the one next to it. This cautery ought to be applied to that part where the nerve bifurcates to furnish its collateral branches to the last two toes; and ought to be kept there for five or six seconds. The wound should then be dressed with simple cerate, and allowed to cicatrize. A Capuchin monk, affected with sciatica, carried with him, in his travels through various towns, an instrument for this purpose. Professor Quadri has often repeated this operation at Prati, in Tuscany, with great success. These circumstances were brought to M. Caffe's memory, by reading an article on the treatment of sciatica, in which mention was made of a woman of Cassano who had a great reputation for her success in its cure. The means which she employed consisted in the application of a certain herb to the foot, which produced a sore. Various physicians, astonished at the results produced, took the trouble to find out that the remedy in question was the leaves of the *ranunculus sceleratus*, which, as every one knows, is a powerful vesicant. Dr. Fioravante has employed common blistering plaster to the same part, with the happiest results. *Prov. Med. Jour., Dec.* 9, 1843, *p.* 202.

53.—PARAPLEGIA CURED BY STRYCHNINE.

A journeyman, aged 59, of sanguine temperament, subject to rheumatic pains, had experienced, about a year ago, his last attack of rheumatism, which had left, in the cervical region of the spine, a considerable swelling, extending to the left side of the throat, where several tumefied lymphatic glands appeared. The movements of the head were difficult and constrained. In about six months' time he perceived a remarkable weakness of the upper and lower extremities. He found more and more difficulty in walking, and could scarcely grasp things with his hand. He felt some formications in his limbs, but no contraction. The sensibility appeared to be natural.

The day after his entrance into the hospital (La Charité), it was discovered that he was not able to void his water, and his stools passed involuntarily: this he ascribed to the fatigue of his journey. A cautery was applied to each side of the tumour in the neck. Pills of strychnine were prescribed, the dose of which was raised progressively from one-eighth to one-third of a grain. At the end of five days from the commencement of this treatment, he began to feel twitchings in his lower extremities. On the eighth day all the movements were entirely restored; there did not remain the least trace of paralysis either of the extremities, of the bladder, or of the rectum. A short time afterwards he was discharged, perfectly cured.—*L'Experience, Oct.* 26, 1843. *Prov. Med. Journ., Nov.* 18, 1843, *p.* 141.

54.—TREATMENT OF SCIATICA.

M. Fioravante, hearing frequently of the successful cures of sciatica wrought by a woman of Cassano, by means of irritating applications to the heels, endeavoured to attain the same effects by employing preparations of cantharides; but his first attempt failed, on account of the thickness of the epidermis on the heel, which lessened, or even altogether prevented, the action of the vesicant. He then thought of cutting away the epidermis with the bistoury, having first softened it with the application of an emollient poultice. By cutting away layer after layer, until he arrived at the quick, he obtained a surface, on which the blister of cantharides produced its ordinary effects. In chronic affections it was necessary to keep up the suppuration of the blistered surface for some time.

The author mentions twelve cases of rapid cure obtained by this simple process. A circumstance that vouches for his veracity is, that he abstained from practising these experiments on persons affected with chronic or with very recent sciatica; in the former cases, because all treatment might fail, on account of their obstinacy; in the latter, on the contrary, because ordinary medication effects, in general, an easy and prompt cure.—*Annali Universali di Med., and Gaz. Med., Nov.*, 1843.

Prov. Med. Jour., Dec. 2, 1843, p. 179.

55.—EFFECT OF THE ANISODUS LURIDUS ON THE PUPIL.

The *anisodus Luridus*, a perennial herbaceous plant belonging to the natural family of the *Solaneæ*, was brought from Nepaul to Europe in 1824. In our gardens it often does not come out till the middle of June; it then springs up with astonishing rapidity, and soon surpasses the *Atropa Belladonna* in height. It strikes its roots deep into the ground, and withstands the severest winters. It is of a pale green colour. A tincture prepared with an ounce of the dried leaves to eight ounces of alcohol at 20 degrees, when given to different patients, produced an extreme dilatation of the pupil, the highest dose being twenty drops in the twenty-four hours. Two of them suffered from amaurosis for a short time, and their blindness did not go off till the medicine was omitted.—*Gazette Medicale, Nov.* 4, 1843, from the *Journal de Medecines de Bruxelles.* *Med. Gaz. Dec.* 1., 1843, p. 287.

56.—DEVERGIE'S SOLUTION OF ARSENIC,

Is composed of arsenious acid, ten grains; carbonate of potash, ten grains; distilled water, six pints and a half; alcohol (*de melisse compose*), fifty minims; tincture of cochineal, as much as is required to colour the mixture sufficiently. Each drachm of this solution is said to be equivalent to four drops of Fowler's liquor arsenicalis. M. Devergie employs this remedy with advantage in long standing cutaneous eruptions, particularly those of a squamous and impetiginous nature. He indicates, as a constant result and symptom of cure, the appearance of dark brown spots on all parts of the skin previously diseased, which persist for some months afterwards. —*L'Experience.* *Lancet, Dec.* 30, 1843, p. 437.

57.—MURIATE OF AMMONIA INTERNALLY.

In the medical treatment of pleurisy, and sub-acute inflammation of the lungs, and congestions of the mucous membrane, I have availed myself very satisfactorily of a German remedy, which is almost universally employed in such cases, viz., the muriate of ammonia. In English practice it has generally been confined to external use, whereas it is employed by the Germans in a great variety of internal complaints. It usurps the place of the nitrate of potash in British practice. Its employment is confined to sub-acute affections, congestive states of the mucous membrane of the bronchia, and chronic affections of the serous membrane. Where the inflammation

runs very high, the nitrate of potash and soda are preferred. It has no very decided action on the system, although it sometimes stimulates the kidneys; but it is considered to be deobstruent, and to unload the vessels gradually, so that convalescence is achieved without any critical evacuation. It relieves thirst, and the tongue gets unloaded under its use. It has certainly a decided action on the mucous membrane generally, and is useful in old coughs accompanied by gastric derangement. I was loath to employ it when I first commenced practice in St. Petersburgh, but the good recommendation of my German colleagues overcame my scruples, and during the last ten years of my sojourn among them, I prescribed it most freely, and have reason to speak most highly of it. I never failed to use it in the many cases which that climate affords of such affections as are benefitted by it. Its combination with the tartrate of antimony, in a solution of extract of liquorice, is a valuable prescription. The following is the form usually employed:

℞. Ammoniæ mur. 3j. ext. glycyrrhiz 3iij.; antim. tartar. gr. ij.; aquæ distil ℥viij. M.

A large table spoonful of this mixture is administered every two hours. The antimony forms no inconsiderable part in the operation. When its nauseating effects have made a sufficient impression upon the disease, it may be withdrawn, and the muriate continued by itself. In many cases the latter is only administered. Stomach coughs are greatly benefitted by it. Where the tongue is loaded, it cleans rapidly under its use. A variety of affections of the mucous membrane, sore throats, enlarged tonsils, relaxation of the uvula, &c., feel its influence.—*Sir G. Lefevre on thermal comfort.*

Dublin Jour. of Med. Science, May, 1844, *p* 370.

58.—THE SEA SIDE AS A REMEDIAL AGENT.—By M. Guastalla, of Trieste.

The influence of a marine atmosphere in the treatment of various diseases has been recognised by physicians from the earliest times. But though daily experiencing its advantages, they were ignorant of the true principles on which its salutary effects depended. And even since the discovery of the real constitution of the atmosphere, various opinions have prevailed on this point. At first it was thought that the maritime air contained a larger proportion of oxygen than other air, that gas being disengaged in the course of the incessant decomposition of sea water. Very soon, however, sea salt was supposed to have been recognised as entering into the composition of sea air, and works were written recommending voyages as a means of absorbing this substance by the lungs in various diseases thought likely to benefit by it.

Strange to say, the early hypothesis of the greater oxygenation of sea air has been revived in the present day, and M. Assegond has maintained, that in phthisis complicated with inflammation, the respiration of sea air is injurious, owing to its being too stimulant from its higher degree of oxygenation. All the great authorities in chemistry, however, are decidedly opposed to the idea of any difference in the essential elements of the air of different districts; and if the air of the country is more salubrious than that of towns, or that of marshes injurious, or that of the sea possessed of peculiar qualities, it appears to be owing to the circumstance of these varieties of air holding in suspension various foreign admixtures, for it is established that the relative proportions of the essential constituents of the atmosphere are everywhere the same. What, then, are the accidental admixtures to which marine air owes its peculiar qualities? They are precisely those which are to be looked for from the nature of the case—chloride of sodium and free muriatic acid. But this statement must be received with some degree of qualification. It has been proved by Berzelius that the air of the sea side contains no acid or salt in combination with itself, and that the vapours rising into it are purely aqueous. But during the agitation of the sea, and particularly in high winds, and where the waves break violently upon the beach, a quantity of natural sea water is driven into the air, and may be conveyed to a greater or less distance, according to circumstances. Thus,

then, by whatever means they may have come there, sea air does contain, in a state of suspension, certain proportions of sea salt, and of muriatic acid, which are inspired into the lungs, and there absorbed and conveyed into the blood. Now, the experiments of Albers and others on the respiration and absorption of these substances used medicinally, prove that, though at first chlorinated respirations irritate the nose, the eyes, and the bronchial mucous membrane, yet, when absorbed, they very speedily exert a powerful antiphlogistic influence in chronic inflammations of the chest. In addition, sea air contains very little carbonic acid, and so is purer than the air of towns. The free ventilation on the sea side also prevents mephitic particles from accumulating as they often do in inland situations. The aqueous vapour constantly rising into the air from the sea, is another favourable circumstance, rendering it fit for respiration in a number of diseases which we know are aggravated by breathing a drier atmosphere. From the same cause the temperature of the sea side is milder and less liable to sudden changes. These various circumstances explain the undoubted healthiness of sea-ports and islands. Practitioners in sea-port towns, so situated as to be fully exposed to the constant influence of sea air, have been struck with the less degree of intensity which inflammatory affections present there, compared with what they do in inland situations. It is impossible, therefore, to attach any weight to the statement of some authors, that sea air is exciting, and injurious to phthisical patients. There is a period of the disease, that of suppuration, when no means will prolong life, but it is contrary to fact to suppose that the air of the sea will hasten death. So convinced was Lænnec of the importance of this remedy in chronic diseases of the chest, that he was induced to establish a kind of marine atmosphere in the wards of the hospital de la Charité, by means of fresh marine plants placed around the beds, and by making the patients take infusions of such plants. In such a case, however, the resources of art must of necessity be much inferior to those of nature, and the phthisical patients sent to hospitals are generally in far too advanced a stage of the malady to benefit much by these feeble imitations. From these and many other analagous observations which might be quoted, it results, that in chronic inflammations of the chest, sea air is of unquestionable benefit, in so far at least, that if it does not cure them all, it so far alleviates them, that they cease to be insupportable or incompatible with life. Farther, that instead of sending phthisical patients to the country to breath the dry air of the mountainous regions, they should be sent on sea voyages, or else to some well chosen, healthy, and favourably situated part of the sea shore. As quoted in *Annales de Therapeutique*, Nov., 1843, *from an Italian Journal.*

Lon. and Edin. Jour. of Med. Science, May, 1844. *p.* 416.

59.—THE VALERIANATE OF ZINC.

This new remedy is much employed in Italy in nervous diseases, and appears to be a remedy of sure efficacy in that class of cases, and a valuable addition to our means of treating them. Its formation is not difficult, if only we have previously obtained its two elements in a state of purity. Let a quantity of hydrated protoxide of zinc, sufficient to saturate the acid, be gradually added to a quantity of valerianic acid. Heat favours the combination. Then pour the solution of the salt into a porcelain vessel, adding a small quantity of protoxide of zinc to neutralize any uncombined acid. Concentrate the solution by evaporation, and a white crust of valerianate of zinc will form on the surface, which is to be removed as it forms, and after being dried put into a close vial. M. Muratori has obtained the salt in another way, by the double decomposition of sulphate of zinc and valerianate of lime; we thus obtain a solution of valerianate of zinc, sulphate of lime being thrown down. The fluid is then concentrated. M. Cerulli treats of the practical applications of the medicine. In three cases of supra-orbital and infra-orbital neuralagia, a cure has been obtained by giving it in doses of

one and a half grains daily, divided into two pills, and taken at the moment of the accession of the paroxysm. In one case the cure was complete in thirty days; in forty in another; and in fifty in the third.—*Gazette Medicale de Paris.* Jan., 1844.

Lon. and Edin. Monthly Jour. of Med. Science, May, 1844, p. 427.

60.—VERATRIA OINTMENT AND ACETATE OF VERATRIA.

Veratria made into an ointment with lard (3-10 parts of veratria to 400 parts lard) has been used for many years by Calvé and other physicians at Montpelier, with the best effects in all forms of neuralgia. Sauvan, the apothecary, remarked that an ointment of veratria, prepared with rancid fat, was more potent, and attributed this to the soluble (*acetate*) *salt* of veratria, which was formed by the liberated acid. The veratria is dissolved by the acetic acid; at the same time, a small quantity of an oily substance, which is coloured reddish-brown by nitric acid, is separated; and on evaporation, a gummy, readily soluble salt, of a slightly bitter taste, is obtained, but more powerful than the pure veratria which has been treated with æther. It will consequently be better to make the ointment of *acetate of veratria and fresh lard*, in small quantity, than to trust to the uncertain effect of the rancid fat.—*Pharm. Central. Blatt. Jan.* 31, 1844. and *Chemist.*

London and Edinburgh Monthly Journal of Med. Sci., May, 1844, p. 427.

61.—EFFECT OF ELECTRO-MAGNETISM ON PARALYSIS.—By Dr. SHEARMAN, Rotherham.

In a very excellent summary of the proceedings of the Sheffield Medical Society, by Mr. Law, we find the following notice of a case of Dr. Shearman's.

The patient, a lady, was 51 years of age, and had suffered for some months from tic douloureux of the right inferior maxillary nerve. On January 31, 1841, she was suddenly seized with an extraordinary attack of vomiting. She fainted, and had loss of power over the arms when in the upright, but not when in the recumbent posture. On the evening of the 1st of February, she found it impossible to swallow anything, and the sickness subsided. There were no symptoms of inflammatory action. Subsequently she had paralysis of the left side of the face, and of the right arm and leg. The patient became exceedingly feeble, and neither external nor internal stimulants had any effect. Dr. Shearman treated the case as he would have done if it had been one of palsy, succeeding a slight fit of apoplexy. Nothing could be introduced into the stomach except through the œsophagus tube. On the 25th of February, electro-magnetism was applied, with the sanction of Sir A. J. Knight, to the back of the neck, and chest, in the course of the œsophagus, to the left side of the face, and from the spine in the course of the nerves to the right arm and leg. This was done one hour at least three times a-day for a month, and afterwards twice a day. The nutritious and stimulating injections into the stomach were continued until March 9th, when she could swallow so well that the œsophagus tube was unnecessary. Pretty good doses of quinine, and other stimulating tonics, in the way of nourishment, were administered; and great attention was paid to the digestive organs. On the 26th of June she could walk up and down stairs tolerably well. From this time, the electro-magnetism was gradually discontinued. She got quite well, and is so at this moment.

This is clearly a very rare case. While it was going on, Sir A. J. Knight and Dr. Shearman consulted all the authorities within their reach without obtaining any information respecting it. Dr. Shearman referred the case to Dr. Abercrombie, who acknowledged that he was quite at a loss with regard to the state of the spinal cord. There can be no doubt that in this case there was no structural disease. This seemed to be the general opinion of the society. With respect to treatment, the writer doubts whether the

electro-magnetism is entitled to the credit of having effected the cure; or whether this should be attributed to the quinine, stimulating tonics, and the great attention which was paid to the digestive organs. Paralysis occasionally terminates favourably quite irrespectively of medical treatment, and the acknowledged obscurity in which the proximate cause, in the case under consideration, was involved, demands especial caution in assigning to each of the various means employed in the treatment, its due share of credit. It is by no means impossible, that the electro-magnetism, instead of having carried off the complaint, retarded the cure; and that this was ultimately accomplished by nature, assisted by the general treatment. Until a series of cases treated with, have been contrasted with a parallel series treated without, electro-magnetism, it would be unphilosophical to pronounce a decided opinion on this principle as a curative agent in paralysis. Although the writer has employed electro-magnetism in a variety of cases, during the last twelve months, yet he has hardly been able to verify a single observation of any one of its numerous and zealous advocates. Dr. Shearman used either the negative or positive pole, as chance directed. Now, Ritter asserts that the former diminishes while the latter augments the powers of life, and J. D. Humphreys, medical galvanist, with Chas. Woodward and others, says that the positive pole exerts a salutary influence, by exhilarating the spirits, and infusing feelings of energy and strength; while the negative excites a sense of exhaustion and irritation. These writers distinctly state that the only effect of the negative pole, if applied to the seat of a disease, would be to aggravate its worst symptoms. How are these opinions to be reconciled with Dr. Shearman's belief, that he had cured his patient by an indiscriminate use of the oxidating and deoxidating electricities?

Dr. Wilkinson, Dr. Hodgkin, Mr. Ware, and Mr. Carpue, ascribe wonderful power to electro-magnetism in diseases affecting respiration, circulation, digestion, and secretion. According to these gentlemen, there is hardly a complaint which it will not either cure or relieve; or an indication in therapeutics which it will not satisfactorily fulfil. The writer can reconcile the discrepancies between the statements of authors and his own experience, only by supposing that the publications on this subject contain many errors. With respect, however, to the case under consideration, it is right to say the society generally agreed with Dr. Shearman, in ascribing the cure to electro-magnetism; and that Dr. Abercrombie speaks rather favourably of this agent. *Prov. Med. Jour., May* 15, 1844, *p.* 88.

62.—SCARIFICATION OF THE GUMS DURING DENTITION.—By Marshall Hall, M.D., F.R.S., &c.

There is no practical fact of the truth and value of which I am more satisfied than that of the effect and efficacy of scarification of the gums in infants, and not in infants only, but in children. But the prevailing, I may say the universal idea on the subject is, that we should lance the gums only when the teeth are ready to pierce through them, and only at the most prominent parts of the gums, and as the occasion to which I have referred may require; and no idea of this important measure can be more inadequate to its real value. The process of teething is one of augmented arterial action and of vascular action generally; but it is also one of augmented nervous action; for formation, like nutrition, secretion, &c., generally, is always one of nervi-vascular action, and of this the case in question is, from its peculiar rapidity, one of the most energetic. Like other physiological processes, it is apt to become, from that very character of energy, pathological, or of morbid activity. It is obviously, then, attended with extreme suffering to the little patient; the brain is irritable, and the child is restless and cross; the gums are tumid and heated; there is fever, an affection of the general vascular system, and there are, too frequently, convulsions of various degrees and kinds, manifested in the muscles which move the eyeball, the

thumb and finger, the toes; the larynx, the parietes of the respiratory cavities; and the limbs and frame in general; affections of the excito-motor part of the nervous system, and of the secretions of the liver, kidneys, and intestines; affections of the ganglionic division of that system.

What is the precise cause and source of these formidable effects? Can the mere tension and irritation of the gum situated over the more prominent part of the teeth be the cause of such extensive morbid actions? I think not. The real source of these phenomena is in the entire dental system, in which actions of unusual energy and extent are going on—sub-inflammatory they might be called, were they not in reality of an essentially different nature and origin. This undue action takes place in the fangs and sockets of the teeth in their whole extent, with their connections, vascular, nervous, and membranous. But *the* focus from which the *nervous* actions emanate is, I believe, not as is generally imagined, the nerves of the mere *gums* seated over the prominent parts of the teeth, but the nerves which may emphatically be termed *the nerves of the teeth themselves*, the nerves which enter into the very fangs and substance of the teeth. *It is to the base of the gums, not to their apex merely, that the scarification should be applied.* The most marked case in which I have observed the instant good effect of scarification was one in which *all the teeth had pierced the gums!*

This view of the subject may assist in removing the futile objection of some who have, without due consideration I am convinced, opposed my plan of frequent, often daily, scarification of the gums, to whom I would say, as my sole reply—Better scarify the gums *unnecessarily* one hundred times, than allow the accession of one fit or convulsion from the neglect of this operation, which is equally important in its results, and trifling in its character. And it is not merely the prominent and tense gum over the edges of the teeth which should be divided; the gums, or rather the blood-vessels, immediately over the very *nerves of the teeth*, should be scarified and divided, as you would divide the vessels of the conjunctiva in inflammation of that membrane.

Now, while there is fever or restlessness, or tendency to spasm or convulsion, this *local blood-letting* should be repeated daily, and in urgent cases even twice a-day. I would here repeat my maxim—Better do this one hundred times unnecessarily than have one single fit from the neglect of so trifling an operation. A skilful person does it in a minute, and in a minute often prevents a most serious attack—an attack which may cripple the mind or limbs, or even take the life of our little patient, if frequently repeated. There is, in fact, no comparison between the means and the end, the one so trifling, the other so momentous.

I would refer those who wish to prosecute this subject to my work on the "Diseases and Derangements of the Nervous System," but especially to my "New Memoir," which contains the most lucid and recent view of the whole subject of the physiology and pathology of the true spinal system, and plates, which, for skill in the draughtsman (Mr. Simpson, of Stamford) both that of the artist and that of the physician, and for interest in a practical point of view, have not been surpassed. *Each* plate evolves a principle of physiology or pathology of great interest and value.

I have frequently thought the vascular condition of the gums during dentition might be ascertained by means of a thermometer properly guarded. The results of a series of observations on this point could not fail to possess much value, while they would probably suggest a means of diagnosis in some serious disease. I do not pretend, in the above proposition, to have advanced anything new; but in the *locality* chosen for the operation, and in the *promptitude, repetition, perseverance,* and in the *energy and steadiness of purpose* with which I recommend the measure to be adopted—if these be fully apprehended—I believe I do propose something *new;* and when I repeat, that since I have adopted the plan of *effectually* removing *all* irritation in the gums, stomach, and intestines, in cases of crowing and other convulsions of the same nature, early enough, I have not known or

seen a fatal case, I am aware that I propose a plan of treatment at once new and *invaluable*. But half measures are of no efficacy. These remarks do not apply, of course, to convulsive diseases of centric origin.

Lancet, *May* 18, 1844, *p.* 244.

63.—DIGITALIS IN CERTAIN DISEASES OF THE HEART.

In the "Northern Journal of Medicine" we find a communication from Professor Henderson on this subject. Agreeing fully in the power which digitalis possesses of diminishing the frequency of the heart's action, and the salutary influence which it consequently exerts over many of its diseases, the author wishes to show that in all those diseases this influence is not the same; in some instances the use of this agent being injurious rather than beneficial. Thus, for example, as had been previously pointed out by Dr. Corrigan, in case of patency of the aortic valves.

The characteristic operation of digitalis is so much less beneficial than in other diseases of the heart, or is actually so injurious, that it becomes a highly important practical rule to abstain from the prolonged or repeated administration of it in the disease in question.

The operation of this influence is thus explained by Dr. Henderson:—Patency of the aortic opening, at that period when the ventricles are being filled, necessarily admits of regurgitation from the aorta, the effects of which are an overloading of the left ventricle, and gradually an enlargement of it. Such being the tendency and issue of the overloaded condition of the organ which results from this regurgitation, it will be granted that whatever increases the amount of the regurgitation must accelerate the progress of the enlargement. That the less frequently the heart beats the greater will be the opportunity for this regurgitation, is sufficiently obvious; and hence it is that the prolonged employment of digitalis cannot but be injurious when the aortic valves are not competent for their office. On the other hand, the most favourable results are found to follow the use of this drug in disease affecting the mitral valves. Disease of these valves gives rise to one of two effects, or to both at the same time, viz., obstruction to the flow of blood from the left auricle to its corresponding ventricle, or to regurgitation of the same fluid from the ventricle to the auricle. When either of these occurrences amounts to a considerable degree, and is of long continuance, hypertrophy of the right ventricle supervenes, and then it is that the sufferings from dyspnœa are developed, and that dropsical effusions take place. The circulation through the heart is materially impeded, and the lungs—partly from this cause, and partly from the augmentated power of the right ventricle—placed, as it were, between two fires, become overloaded with blood, and distressed with the sense of suffocation. And not only so, but the whole venous circulation becomes retarded, and congestions occur in distant viscera. Superadded to the mere mechanical imperfections which result from the diseases of the opening, and the hypertrophy of the right ventricle, an increased frequency of the actions of the heart very commonly attends, either as a permanent occurrence, or as an occasional event dependent on bronchitic attacks, and, usually in proportion to this frequency, are the distress from dyspnœa and the amount of the dropsy.

The author then explains, on the following principles, the favourable results which follow those cases in a subdued action of the heart:—This operation is useful in several ways; it moderates the force with which the blood is propelled into the lungs, and, by the lengthened interval between the contractions of the heart, it allows of the left ventricle being more fully distended, in the case of the narrowed opening, while it lessens the frequency of the interruptions to the passage of the blood, and, in the case of patency of the opening, prevents the regurgitation from being so often repeated. Dr. Henderson asserts that these views are not mere theoretical speculations, but susceptible of daily proof, and, in support of his opinions, quotes two cases, which are, in every respect, satisfactory.

Lancet, *May* 18, 1844, p. 157.

64.—BENZOIN WATER.

The sparing solubility of the salts of lithic acid, is well known to be the proximate cause of a large proportion of calculous deposits. It has been shown that when benzoic acid, or one of its alkaline salts is introduced into the stomach, the lithic acid of the urine becomes converted into hippuric acid, whose alkaline compounds are of very easy solubility, thus—

Hippurate of Soda is soluble in two parts of water, at 60° Fah., while,

Lithate of Soda (the staple of gouty concretions, or "chalk stone") is not soluble in less than 4000 parts of water, at the same temperature.

Biborate of soda is possessed of a considerable disintegrating power over urinary calculi.

The solvent properties of the alkaline carbonates is strongly illustrated by the effects of the alkaline waters of Vichy, in dispersing the chalk stones of gout. It is anticipated that by combining the several medicinal agents alluded to, the efficacy of each will be enhanced, and that while an excess of carbonic acid gas will gratify the palate and invigorate the stomach, copious dilution will hasten the assimilation of the remedies, and contribute towards their final operation. Accordingly a medicine is now prepared as follows:—

Purified Benzoate of Potash, Biborate of Soda, of each 15 grains, Bicarbonate of Potash, half a drachm, Distilled water, 16 fluid ounces—which solution was prepared under a pressure of 2½ atmospheres of carbonic acid gas. The water will be found to retain a large proportion of its gas long after exposure to the air.

This "*Benzoin Water*" will be found to unite the properties of an antacid, of a diuretic, and of a tonic. It will be found useful in an irritable state of the mucous membranes, whether manifesting itself in dyspepsia, or in chronic bronchitis; in all cases where there is a disposition to the formation of earthy deposits, in whatever part of the human frame—and particularly where such formations are the result of an excessive generation of lithic acid in the system.—(Gout and Lithiasis.) *Med. Chir. Rev., April*, 1844, *p.* 578.

SURGERY.

65.—SOME OF THE MOST IMPORTANT SUBJECTS IN THE LATE LECTURES OF SIR B. BRODIE.

Polypus of the Nose.—[In the higher classes of society polypus of the nose is not an uncommon affection. It is frequently nothing more than a peculiar excrescence of the Schneiderian membrane, which is not malignant. It is a tumour connected generally by a thin neck to this membrane, or by a narrow pedicle, or a long thin membrane continuous with Schneiderian, but less vascular.

The polypus is very smooth, and but little vascular, though sometimes vessels burrow into it. It is gelatinous in density, and appears to consist of coagulated albumen. In a few instances there is but one polypus; but commonly there are two or three, and frequently clusters, so that we can scarcely count them. The colour, which it is essential to notice, is pearl-like, or white, mixed with brown, of an opal appearance. Soft polypi of this kind, Sir B. Brodie has never seen attached to the septum nasi, the inferior turbinated bone, or any part of the nostril, but almost always to the cells of the ethmoid bone, though occasionally to the superior turbinated bone.

There is at first merely an unnatural secretion of mucus, often without pain—the smell is affected or even disappears, and even the taste may become considerably impaired. The symptoms may go on for years, while

the polypus may go on increasing and become more solid, the base being at last almost cartilaginous. It may increase even to come down outside the nostril, or may descend down the pharynx, behind the soft palate, of the size of the fist.]

If large, you can tell how far it extends, if it extend into the pharynx, by putting your finger into the mouth; if it extend to the brain you may tell that by the cerebral symptoms. Then, how are you to get rid of it since it is not under the influence of medicines, being quite local? After it has been removed, I have used local remedies to prevent its return, but medicines are only useful after removal, therefore straightway remove it! In common polypus, ligature is impracticable; and those who propose it can never have had anything to do with the disease. It is impossible also to remove it by the knife, as you cannot see it, and when touched with a sharp instrument the blood directly flows so as to prevent your continuing the operation. Neither with the scissors can you see your way sufficiently. The best way of operating is with a proper pair of forceps, if you know how to use them. The proper forceps will pull away its neck. The *whole* of the opposite surfaces ought to be quite rough; convex above, concave below, opening laterally, so that it may hold the polypus tight. They should be pretty strong, and not slender, unless for small nostrils. If made with a screw in the handle, having a double worm, when the polypus is grasped, by proper manœuvreing and screwing it tight, there is no danger of its slipping off. The proceeding may be longer, but it is more certain. In a few cases you will want such forceps as these, which open from above downwards, but they are not often required. Any forceps should be oiled and warmed, the patient in a chair with his chin elevated; get hold of the polypus near the base, by introducing the forceps upwards to the back of the nostril; place one blade on each side, tighten the forceps with the screw, and then—not merely pull it out at once, or the polypus will break off—but twist a little to each side, gently draw forwards, push backwards, twist it again and again, a few times, and then draw out the forceps with some force, and the polypus will come away entire. There may be several others, and if so, repeat the operation. The patient should blow his nose, so as to bring them all into view; if he cannot do so, you must endeavour to remove them without seeing them. There may be, also, a small one jammed in by the larger, which is to be seen on removing the latter. Having done all this, the relief to the patient is immediate.

In some cases one operation is sufficient; in others, two, or even three, are necessary. Be gentle in using the forceps; rough usage might impair the ethmoid bone, or even the cribriform plate. I never saw any inflammation result from the operation, or cerebral symptoms, or erysipelas. In one case hæmorrhage followed, which I easily stopped by plugging the nostril with lint. Mucous membranes bear injury more readily than the skin, as in the case of internal piles.

In very old, firm, and cartilaginous polypi, there is great adhesion to the bone; but it is of no consequence if you remove a small plate of the bone with it, for at least that shows that the whole polypus has come away. In these cases I use a peculiar forceps, resembling those employed by ladies for cutting flowers, so constructed as to cut at the upper part, having a rough surface below to hold the polypus. These shave off the popylus as near the bone as possible. I will conclude my remarks on the extermination of common polypi from the nose, by adding, that in some cases you may know from what occurs at the operation, there is a tolerable chance of the tumour not returning. In making this observation I allude to an occurrence that I lately met with. A gentleman came to me with a polypus. There was only one that I could discover. In removing it, a portion of the cells of the ethmoid bone was taken away. There was no harm whatever in a part of the ethmoid bone being thus extracted; I never saw any ill consequences arise from from it, and you may suppose, from the polypus being thus completely removed, that there is less chance of its return than there

otherwise would be. Another polypus may arise from other parts of the mucous membrane, but certainly not from this.

[When the polypus has been removed it is well to endeavour to prevent its return. Sir B. Brodie recommends for this purpose the *white precipitate ointment*.

This should be softened by holding it before the fire, and then, with a camel's-hair brush, you must paint the upper part of the nostril from whence the polypus seems to have originated. This must be done every day. It is a very mild application and does not irritate. A gentleman very steadily persevered with this plan; he often came to me for other little complaints; thus I had an opportunity of watching the case, and the polypus did not return for fifteen or sixteen years, when I again removed it. I have seen other cases in which very great good appeared to arise from this local application, after the removal of the polypi. Sometimes I have employed the ung. hydrarg. nitratis diluted, but I have more frequently used the white precipitate, and I prefer the latter. On the whole I think it is quite as effectual and does not inflame the nostril, or cause sneezing, or plague the patient so much as the former. Its use, however, must be persevered in steadily—not for a few days, a few weeks, or a few months, but even for years. The patient must learn to apply it carefully for himself, or get some one to apply it well for him. If the brush be merely intoduced a little way into the nostrils it can do no good. You must explain to him the direction which the passage of the nostril takes, and show him how to pass it up into the middle meatus, directing the instrument first a little upwards and backwards, and then directed backwards into the throat; and, indeed, the brush ought to be carried back as far as the pharynx, so that you may sweep, as it were, the whole roof of the nostril. You may use astringent lotions, which I have no doubt are sometimes attended with advantage, such as a solution of sulphate of zinc, or a solution of alum. Dissolve half a drachm of sulphate of zinc in eight ounces of rose-water, with a drachm of tincture of galls, and let the patient inject this with a syringe into the nostrils every day. This may more especially be employed where the nostril is narrow, and a camel's-hair brush of sufficient size cannot be made to enter it.

I have sometimes applied the nitrate of silver to the roof of the nostril from which the polypus grows. This must be used carefully, not because of any real harm that it will do, but if it be applied too extensively it will produce inflammation of the nostril. The upper lip, from the margin of the nostril, must be protected by smearing the parts with olive oil, otherwise the nitrate of silver will flow down upon them, and then, some time afterwards, when the patient has been exposed to the light, he will find a great black stain upon his face.

A polypus occurs in the nostril of a different structure from that which I have just described—a fleshy polypus apparently composed of firm, solid fibrin, with a very thin membrane over it. It is apparently of the same structure as the polypus that grows from the uterus, and sometimes from the rectum. I am inclined to believe that sometimes the common polypus alters its structure, and becomes a fleshy polypus; but certainly that is not generally the case. I think, however, it does occur in some instances; I know that in other cases a polypus is fleshy from the beginning.

These fleshy polypi have generally a narrow neck, as in the case with polypus of the uterus, and that which grows from the inner surface of the rectum. The polypus does not appear to me to be restricted to any part of the nostril, to the cells of the ethmoid bone, or the superior turbinated bone. I saw one of these polypi on the septum nasi, quite within sight. It was an inch in length and three inches in diameter, and attached to the surface of the septum nasi by a narrow neck. I introduced not a pair of forceps, but probe-pointed scissors, slightly curved, and snipped off the polypus close to the septum. I applied nitrate of silver to its foot; and when I saw the patient a considerable time afterwards, there was no re-production of the polypus. In like manner the fleshy polypus of the uterus does not grow again after it has been removed by ligature.

[In other cases it is not possible or prudent to remove the polypus by this means: it is necessary to do so by ligature, and as Sir B. Brodie says, it is much easier to talk about this operation than to do it.]

One method of tying a fleshy polypus that projects from the nostrils into the pharynx is this: Pass a bougie into that nostril from which, judging by the exploration of the finger, you suppose the polypus to arise. It may have its origin from the septum between the two nostrils, and in that case you may pass it into either nostril, but generally by introducing the finger into the pharynx and turning it upwards, you will discover that the tumour arises from one or the other nostril. The bougie is to be passed through that nostril into the pharynx; the finger must then be introduced into the pharynx, the bougie bent, and one end brought out at the mouth. Thus, one end of the bougie projects from the nose and the other from the mouth. You fasten a double ligature to the end of the bougie that projects from the mouth, and the loop hangs down. You draw the bougie out at the nose; the ligature, of course, follows it; you cut it off from the bougie, and then the two cut ends hang out of the anterior nostril over the upper lip, the loop at the opposite end hanging out of the mouth. The ligature should be strong and well waxed, so as to make it stiff. It should also be very long, or you will find the operation difficult; it is easy to cut it shorter. The next step of the operation is to get the ligature over the tumour. For this purpose you cut through the loop hanging from the mouth, so that there are now two single ligatures.

One end of the single ligature is to be passed through a silver tube, and putting the tube into the mouth and pharynx, you carry one end of the ligature under the base of the tumour on one side of it. You leave that out of the mouth, and your assistant holds both ends of the ligature to prevent it from slipping; then, with the same silver tube, you are to take hold of the other loose ligature at the mouth, and carry that on the other side of the polypus, and there your assistant is to hold it. A knot that will not slip must then be made of the two ends of the ligatures that hang from the mouth. You have a ligature now on each side of the polypus, and then by carefully drawing the ligatures out at the end of the nose, you have got hold of the polypus at its base. A silver tube is then to be introduced into the nostril, and you tighten the ligature upon the shoulders of the tube in the same manner as you are taught in the lectures on midwifery to tighten a ligature on polypus of the uterus. It must be tightened every day till you have completely cut through the polypus. But if this were all, when the polypus was loose it would drop into the pharynx; that would be of no consequence if it were a small one, but if it were large it might choke the patient. To obviate this, after the ligature has been applied, pass a needle, with a strong ligature, through the polypus, and let the ligature hang out of the mouth, so that when the polypus is loose, the patient may draw it out at the mouth. It was in this manner that I tied the very large polypus that I mentioned a few minutes since.

But there is another method that is still more convenient than this, and which I have employed on other occasions. It was the method adopted by Dessault. You require a silver tube by which the ligature is to be directed into the mouth, a shorter silver tube to be introduced into the nostril for tightening the ligature, and two pretty long ligatures. You introduce a bougie into the nostril and bring out one end at the mouth. To this you fasten a single and a double ligature; the single one must be very long. That being done, the bougie is to be drawn out at the nose, and, of course, the ligatures follow it. You then cut off the bougie, and you have the two ends of the double ligature hanging out of the nose, and the loop hanging out of the mouth; one end of the single ligature also hangs out of the nose, and one end out of the mouth. The single and the double ligature always pass on one side of the polypus; but by means of a silver canula you draw the single ligature to the other side of the polypus. The ligature being held in its place by an assistant, the end of the single ligature, projecting from

the mouth, is passed through the loop of the double ligature, and the ends of the double ligature being drawn out of the nose, the single end follows, and you make a ligature which you fasten by means of a canula introduced into the nose. The method is easier in practice than the one I mentioned before, though it is more difficult to describe.

[Other tumours of a malignant nature may grow from the nostrils, which may be confounded with the two kinds of polypus just referred to. No good has hitherto resulted from interfering with them, and therefore Sir B. Brodie thinks it better to let them alone, as "they have generally so broad a base that any operation for their removal is out of the question."]

Lancet, Dec. 9, 1843, p. 313.

[There are some non malignant affections which are sometimes mistaken for polypi; for example, a scrofulous child may have difficulty of breathing through the nostrils, and on examination the membrane is found turgid and vascular, with an excrescence upon it. This, however, will frequently be nothing more than a thickening of the mucous membrane of the nostril at the anterior extremity of the inferior turbinated bone. The mucous membrane may not be more thickened than elsewhere, but it is more apparent in that situation on account of the projection of the bone.]

In some cases in which the mucous membrane has been sufficiently thickened to obstruct the respiration through the nostril, I have introduced a pair of probe-pointed scissors, slightly curved, and snipped off a portion of the projecting mucous membrane. There is no harm whatever in its excision; and where the nostril is much obstructed, the operation affords great relief. You may suppose this to be a very simple operation; and so it is, for it is done in an instant, but yet it requires some care in order that it may be done properly. In the dead body you might snip off a bit, and if you had not completed it by one incision you could make another. But in the living subject the mucous membrane is full of vessels, and the part must be snipped off at once; for the moment one division is made with the scissors, the hæmorrhage is so great that you cannot see a bit of the remaining part which requires to be divided. It is only every now and then that you find it necessary to have recourse to this operation. In other cases give the child small doses of steel for three weeks, then suspend its exhibition for a fortnight, and again resume it—and proceed in this manner for three or four years. Delicate children who are liable to this disease of the Schneiderian membrane are always benefitted by the exhibition of steel; it should, however, be given, not in large doses, for a short time, but in small ones, long continued. Where the constitution is weak, you may sometimes cure the disease in three weeks, but the rectifying of the constitution is a work of years. Some good may be done by local treatment. Dissolve two grains of sulphate of zinc in an ounce of rose-water, and inject a portion into the nostrils two or three times a-day; or paint the inside of the nostril with diluted ung. hydrarg. nitratis by means of a camel-hair brush.

I have seen some cases in which a small abscess had formed in the tumour that I have just described. Suppuration had taken place in the substance of the Schneiderian membrane, just where it projects in front of the inferior turbinated bone, and the best plan to adopt is to cut off, with a pair of scissors, membrane and abscess altogether. When an abscess forms in a pile, that is best relieved, not by laying open the abscess, but by snipping off the pile.

Diseases of the Tongue.—[On diseases of this organ we find very little attention has been paid by authors, except on those which are malignant. Indeed it is too often the case that writers bend their chief attention to those affections which are most uncommon in private practice, while they neglect to give us their experience on the more common events of daily practice. In this respect most practitioners have to be their own instructors, and do not become really well informed on the common routine of practice till some years have enabled them to make minute observations at

the bedside. The tongue is sometimes *swollen* in dyspeptic persons, or it becomes *cracked* on the surface. These cracks or fissures are sometimes very deep, and will generally be durable. They often arise from profuse salivation at some former period of life, but when slight, may be owing to dyspepsia. If owing to mercury, the best remedy, perhaps, is sarsaparilla, or nitric acid. We sometimes find little ulcers on the tongue, often the consequence of syphilis, and accompanied, perhaps, with little spots of syphilitic psoriasis, on the body or on the scalp. They soon disappear by means of small doses of mercury, and in one case mentioned by Sir B. Brodie, the hyd. c. creta was given in small doses for nearly two months before a radical cure could be effected. Small doses are much to be preferred to large ones. Sir Benjamin prefers five grains of the hyd. c. creta with one or two grains of Dover's powder; and where this fails he gives the iodide of potassium, two or three grains given twice daily, dissolved in plenty of water. If these ulcers arise from dyspepsia, which is frequently the case, one or two applications of the nitrate of silver will be sufficient to cure them.]

There is a disease of the tongue which I have seen every now and then, and which I am sure is very often mistaken for cancer, though it is of a different nature. It is a curable disease, although it looks like a malignant one in many respects. The first thing of which the patient complains is enlargement of the tongue, with some pain. On examination you find a tumour in one part of it, not very well defined, nor with any distinct margin. It is a softish tumour, and increases in size, and perhaps another tumour appears in a different part of the tongue, and that increases also. There may be three or four of these soft elastic tumours, with no very defined margins in various parts of the tongue. This is the first stage of the disease.

In the second stage there is a small formation of matter in one of these tumours—a little abscess, which breaks externally, discharging two or three drops of pus. When the abscess has burst it does not heal, but another forms in one of the other tumours. These abscesses may assume the form of ulcers, and the ulcer has a particular appearance. In the first instance it is a very narrow streak of ulceration, but on introducing a probe you find that the ulcer is the external orifice to a sort of fissure in the tongue. The probe passes in obliquely; the tongue is, as it were, undermined by the ulcer, a flap of the substance of the tongue being over it.

The disease now becomes more painful, and at last these ulcers may spread externally. In some instances they occupy a very considerable portion of the surface of the tongue, but generally they burrow internally, and do not spread much towards the surface. This is a very distressing state of things, and a man may remain in this state for a long time. The glands of the neck do not become affected, nor does the general health suffer, except from the difficulty of swallowing food. This is one inconvenience experienced by the patient, and he also labours under a difficulty of articulation. The tongue, from its enlarged state, may become stiff, not sufficiently pliable for the purposes of speech, and the patient either speaks thick or lisps.

In some instances the disease may be relieved by a course of sarsaparilla, with small doses of bichloride of mercury. A strong decoction of sarsaparilla, with from a quarter to half a grain of bichloride of mercury, may be taken in the course of the day. Of course, if there be anything wrong in the general health, you should endeavour to get that corrected, and attend especially to the state of the bowels and the secretion of the liver. If the secretions of the digestive organs be unhealthy, a dose of senna and salts may be given every other morning, and blue pill every other night. When the patient is brought into this state, one remedy, as I have said, is sarsaparilla with bichloride of mercury; but, according to my experience, this is not the best remedy. The remedy best adapted for these cases is a solution of arsenic. Give the patient five minims three times daily, in a

draught, gradually increasing the dose to ten minims. It should be taken in full doses, so that it may begin to produce some of its poisonous effects on the system. When it begins to act as a poison it will show itself in various ways. Sometimes there is a sense of heat, a burning pain in the rectum; sometimes griping, purging, and sickness, and nervous tremblings. A patient who is taking arsenic, especially in pretty large doses, ought to be very carefully watched. At first you may see him every two or three days, and then every day; and as soon as the arsenic begins to operate as a poison, leave it off. When this effect is produced the disease of the tongue generally gets well; but at any rate leave off the arsenic, and the poisoning will not go too far; it will do no harm. If, after a time, you find that the disease is relieved, but not entirely cured, you may try another course of arsenic. Perhaps it may take a considerable time to get the tongue quite well. Sarsaparilla, with the bichloride of mercury, may be given at one time; and at another, arsenic. You cannot give either of these remedies forever; and indeed the arsenic can only be given for a very limited period; but it is astonishing what bad tongues of this description I have seen get well under these modes of treatment, especially under the use of arsenic.

[Sir Benjamin thinks that many of these affections, which at first are not malignant, may ultimately prove so; and when they assume the malignant character, or when a disease is of a malignant nature from the first, he thinks it is the best plan to let it have its own course. As in a cancer of the breast it would be of no use to remove the small portion where malignancy first shows itself, or part of a tibia affected with fungus hæmatodes, so in cancer of the tongue the whole organ is more or less diseased from the first, and to remove the piece which first shows symptoms of malignancy, would be of little avail.]

There is one other disease of the tongue, or rather a disease under it, which remains to be mentioned. A patient comes with a sore mouth, and you see the tongue pushed up to the soft palate. It looks as if the tongue were enlarged, but that is not the case, it is lifted up. You tell the patient to put his tongue against the incisor teeth, and on looking beneath you see a tumour. By feeling it you find fluctuation, you puncture it, and let out a quantity of transparent fluid, sometimes a teaspoonful or more. The fluid is a little glutinous, and consists of saliva. There has been an obstruction to the orifice of the submaxillary gland; the saliva has been secreted by the gland, but could not get out by the duct, and hence it has remained till it has formed a large tumour. This is what is called ranula.

You puncture the tumour with a lancet; the fluid comes out, and immediately the patient is well. You see him a week afterwards; he is quite well, and there is no saliva flowing out of the orifice you have made with the lancet. But you see him a month afterwards, and the tumour has reappeared, the orifice has healed, and the tumour becomes as large as ever. All you want is, to get a permanent orifice from the bag into which the duct has been converted; but that is a very difficult matter. I have tried to effect it in various ways. I have punctured the bag, and then touched the edge with caustic potassa to prevent its healing. The patient has gone on very well so long as it did not heal, but as soon as I have left off applying the caustic the orifice has closed. I have introduced a tenaculum into the bag of the ranula, and cut away a piece sufficiently large to admit the finger; the patient has then continued well for a longer time, because the part takes longer to heal, but contraction takes place, and the patient is bad again. I have run a seton through, and the patient has then gone on well for a considerable time. I have introduced a gold or silver ring, and kept that in as a seton. If the seton be kept in a considerable time it seems to effect a permanent cure, but even that fails, and you have to perform the operation two or three times. I know of nothing better than the use of a seton, and I believe that it is better made of a metalic substance than of silk. It does not so soon ulcerate its way out, and if it remain in for a long time, the edges of the orifice through which the seton is introduced may become cov-

ered with mucous membrane. If you introduce a silk or India-rubber seton in the back of the neck, after a great length of time a sort of skin forms on the inner surface of the canal; there is a discharge of matter; and when you take away the seton the part in which it lay remains pervious. So if you keep a seton in a ranula for a very long time the opening may remain pervious. The advantage of a metallic over a silk seton is, that it does not ulcerate its way out so soon, does not get putrid in the mouth, and therefore may be kept in for a longer time. *Lancet, Dec. 16, 1843, p. 345.*

[Sometimes the tongue is affected with a tumour, which, if it occurred in the female breast, would perhaps be mistaken for scirrhus; but still it has not the character of scirrhus of the tongue—it is hard and circumscribed, and rather deeper than common scirrhus. Sir Benj. Brodie would ascertain the effects of iodine upon such a tumour, before he pronounced a decided opinion. In one case he gave eight or ten drops of the tincture of iodine three times a-day, and gradually increased the dose to 20 drops. The tumour ultimately disappeared. In relating this case he cautions us against the too long continuance of iodine, without keeping our eyes on the patient. After continuing its use too long he was seized with paralysis, but on leaving off the medicine he recovered—thus showing how powerfully iodine may affect the nervous system, if used for too long a time.

Paralysis.—Sir Benj. Brodie gives some most interesting cases of the different forms of paralysis, with the morbid appearances in the brain or spinal column, which he detected; but after most careful examination of these cases during life, he acknowledges that their treatment is often exceedingly difficult, as we have not yet sufficiently advanced in our knowledge of this complaint, to be able to state positively whether the disease is of one kind or another. If the disease be an inflammatory affection of the membranes, we may distinguish it tolerably well; but if it be of a chronic character, it is difficult to discriminate between softening of the spinal marrow, tubercles in the spinal chord, and effusion of fluid in the theca vertebralis: besides, these three affections may be combined together, or there may be one first and the others may supervene.]

However, let us suppose that there is a case of inflammation of the membranes of the spinal marrow. The patient comes to you with a severe attack of dreadful lumbago, and by and by he states that there is numbness in his legs, and then difficulty in moving them. In this case you may be pretty sure that there is inflammation of the membranes of the lower part of the cervical cord. How is that to be treated? In the first place take blood by cupping from the loins, and repeat it according to circumstances. Begin by purging the patient, clearing the bowels well out—a right plan to pursue in all cases of inflammatory disease. Then put the patient under the influence of mercury, exhibit calomel and opium, and treat him as you would a patient labouring under pleuritis or iritis.

If I am not much mistaken, I have several times seen the disease stopped by the exhibition of mercury. I have known a patient labouring under numbness of the limbs and incipient paralysis, recover when the gums were made sore by mercury. But if you are called in at a late period, when the inflammation has subsided, and the paralysis consequent on it remains, even then you cannot do better than put the patient under a course of mercury, though not such a course as you would employ in the beginning of the disease. You must not now exhibit two or three grains two or three times a-day, but a mere alterative course—five grains of Plummer's pill, night and morning—the eighth of a grain of bichloride of mercury, twice a-day, in addition to which you may apply blisters to the lower part of the back.

The result will vary in different cases, according to the time at which the treatment is commenced, or according to the intensity of the disease. In some cases you may obtain a perfect cure under the use of mercury; in others an imperfect one. A gentleman riding in a second-class railroad carriage, was exposed to a draft of cold north-easterly wind from one to two hours. The next day there was pain in the neck, and two or three days after-

wards his hands were benumbed. In the course of a week both his arms became paralytic, and then the lower limbs also. We put him under a course of mercury, and he partially recovered, so that he was able to walk about and write, but he was still paralytic to a certain extent.

The treatment of a chronic affection of the spinal chord producing paralysis, must be, to a great extent, empirical, because you cannot make a certain diagnosis. Let me repeat what I have just now observed, that I have never seen any beneficial results arise from the use of counter-irritation; on the contrary I have often seen it productive of mischief. Probably the bowels are very torpid—they will require to be kept open, and it is very difficult to effect it. Sometimes very strong aperients are necessary for this purpose; but it is essential that they should be kept open, for the secretions of the digestive organs are very often exceedingly disordered. The stools will be black, like tar, and the lodgment of the black secretion in the intestinal canal appears to be productive of great mischief to the system. Calomel and a black draught may be exhibited now and then, but a patient cannot take them from day to day. Sometimes the comp. ext. colocynth will be sufficient, but simple purgatives often fail. The pills which I am about to mention, I have found to be convenient in cases of this kind. Two scruples and a half of comp. ext. colocynth; half a scruple of soap; one drop of croton oil. Let these be well rubbed up and carefully mixed, and divided into a dozen pills, one or two of which may be taken every night, or every other night, when wanted. These are excellent pills; they cause nothing like the inconvenience produced by large doses of croton oil, and are very efficient indeed. The disease is very probably quite incurable, and it does not matter what medicine you give the patient. But still every now and then the progress of the disease is stopped, and the patient gets very well again.

The treatment which I have found to be most successful, and under which I have seen the greatest benefit arise, is a grain of zinc made into a pill and given three times a-day, and then a draught of twenty minims of tincture of cantharides, to wash it down. If you dissolve the sulphate of zinc in the draught it makes it nauseous—you may as well give ink. After a time, the sulphate of zinc may be increased, and if you please you may carry it up to five or six grains; but I do not advise you to do it, for if you increase it to a certain point it makes the patient sick, and you cannot induce him to take it afterwards. It is from the continued use of the zinc, and not from the exhibition of large quantities, that benefit is to be derived. The zinc may be increased to a grain and a half, and the dose of tincture of cantharides may be also increased, but I do not advise you to go beyond what I have stated of the latter; for if you do it is very apt to irritate the urinary organs. The tinct. of cantharides is a diuretic, and some have supposed that it does the most good when it acts as such; probably that may be the case, but it seems to be a stimulus to the nervous system also. I mentioned a case in the last lecture, in which a gentleman became paralytic in the lower limbs from inflammation of the lower part of the spinal marrow, induced by a local disease arising from the tincture of cantharides swallowed by mistake. It is easy to suppose that large doses of this agent may excite the vessels of the spinal cord so as to produce inflammation, and that very small doses may be a grateful stimulus to it, tending to restore its power in cases of paralysis. The best recoveries that I have seen have been under this treatment. Some patients have appeared to get very well again; in others the disease appears to have been suspended—it has made no further progress. I see a gentleman every now and then, who laboured under paraplegia, and in whom this treatment was employed. He is now able to walk about, though his limbs are still weak: he has been neither better nor worse for some years. In other cases I have thought that benefit has arisen from the long-continued use of very small doses of bichloride of mercury, combined with tincture of cantharides. Small doses do not seem to act as mercury on the system. I apprehend it acts much in the same way as the sulphate of zinc. Exhibit the sixteenth of a grain of bichloride of mercury in a certain quantity of

ire of cantharides, in a draught three times daily, and such plan of treat- will sometimes be useful. But it is right to state, that in a great number ases of chronic paraplegia the disease is incurable. The disease, how- may go on for years before it ascends to the brain and destroys life.
Lancet, Dec. 30, 1843, *p.* 426.

istula in ano.—[Some of the most interesting and important observations this truly eminent and practical surgeon, are on the subject of *fistula in o.* Every practical surgeon is aware of the difficulty of healing an abscess the vicinity of the rectum. The parietes of such an abscess contract id become hard and callous, in which stage the disease takes the name of *stula in ano.*]

The first question that presents itself is this—Why is it that abscesses are so particularly liable to form in the situation in question, and that when so formed they do not heal like abscesses occurring in other parts of the cellular membrane? I formerly supposed that the healing process was prevented chiefly by the irregular action of the sphincter and levator ani muscles. Further consideration, however, and more mature experience, have led me to the conclusion that this opinion was incorrect. That such causes may interfere with the healing of any abscess I well know, but I am now fully satisfied that they will not afford sufficient explanation why it so rarely happens that abscesses near the rectum heal spontaneously, and at any rate, it is quite clear that the action of these muscles will not explain the formation of these abscesses. In order to explain their formation I must call attention to what happens in other parts of the intestinal canal. The mucous membrane, under a variety of circumstances, is liable to ulcerate. In patients who die from diseased liver, or phthisis pulmonalis, or at the end of continued fever, and various other diseases, you find the mucous membrane of the bowels ulcerated. This ulceration seldom extends further, does not involve the muscular tunic, but sometimes the latter is affected, and then some of the contents of the intestines escape. Should this occur where the intestine is covered by the peritoneum, the contents may escape into the peritoneal cavity.

Every person who has had much experience of disease, has seen cases of this kind; but there are others in which both the muscular tunic and the peritoneal coat ulcerate, and yet the contents of the intestine do not escape into the cavity. Adhesions take place round the ulcerated spot before the ulceration of the peritoneal coat is completed, and these adhesions cause the contents to escape not into the peritoneal cavity, but to become infiltrated into the cellular membrane of some part of the abdominal parietes. A young man, of seventeen or eighteen years of age, who had long been in ill health from disease of the lungs, and who was indisposed in other ways, was supposed to be rather better than usual, but one evening he was seized with violent pain in one side, and there was considerable tenderness of the whole of the abdomen. Two physicians were sent for, the symptoms were not exactly those of peritoneal inflammation, but they could not explain the symptoms so well in any other way as by assuming that he laboured under peritoneal inflammation. The inflammatory symptoms subsided, and two or three months afterwards I was called in to see him on account of a tumour which had formed in front of the belly. It was an abscess; I opened it, and there came out pus, and with it a good deal of foreign matter, which I was satisfied must have come from the intestinal canal. The abscess made its way in several other places, and ultimately this young man died. On examining the body after death, it was found that there were ulcerations at the lower part of the ileum; one of these ulcers had extended through the muscular and peritoneal tunics, but around that ulcer the ileum had contracted adhesions to the abdominal parieties above the groin, and the matter had escaped into the cellular membrane between the layers of the abdominal muscles, and from thence had made its way forward to the part where I opened it. This patient died, but it is not a matter of course that, under such circumstances, such should be the result.

I believe that this is the way in which fistulæ in ano are always formed, namely, the disease is originally an ulcer of the mucous membrane of the bowel, extending through the muscular tunic into the cellular membrane external to the intestine; and I will state my reasons for entertaining that opinion. The matter is one of great interest as a question of pathology, but it is one of great importance, as I shall show, by-and-by, in connection with surgical practice. It is admitted by every one that in the greater number of cases of fistulæ in ano there is an inner opening to the gut as well as the outer opening; and I am satisfied that the inner opening always exists, because I scarcely ever fail to find it, now that I look for it in the proper place and seek it carefully. I have, in a dead body, examined the parts where fistulæ had existed several times, and in every instance I have found an inner opening to it. This affords a very reasonable explanation of the formation of these abscesses; it is almost impossible to understand, on any other ground, why suppuration should take place in the vicinity of the rectum more than in any other part of the body, and why the cellular membrane there should suppurate more than cellular membrane elsewhere. Moreover, the pus contained in an abscess near the rectum scarcely ever presents the appearance of laudable pus—it is always dirty-coloured and offensive to the smell—sometimes highly offensive, and occasionally you find feculent matter in it quite distinct. There is no reason why an abscess simply formed in the cellular membrane should smell of sulphuretted hydrogen; but there is a good reason why it should do so if it be connected with the rectum.

This being the case, it is easy to understand why these abscesses do not heal. The least quantity of mucus, even from the gut, or of feculent matter, issuing into the cavity of the abscess, is sufficient to occasion irritation and prevent it healing, and I have more than once, in the living person, been able to trace the progress of the formation of these abscesses. For example, I was sent for to see a lady who complained of some irritation about the rectum, and on examining it I found an ulcer at the posterior part. I ordered her to take Ward's paste—confec. piperis nigr., or cubebs pepper, I forget which. A month afterwards she again sent for me, and I found that there was an abscess. I opened it, and from the outer opening the probe passed into the gut through the ulcer which had been the original cause of the disease. The original opening of the abscess is generally very small indeed, but occasionally it is large, and when the ulceration has proceeded to some extent, large enough to admit the end of the little finger. The inner orifice is, I believe, always situated immediately above the sphincter muscle, just the part where the fæces are liable to be stopped, and where an ulcer is most likely to extend through both the tunics.

I believe that the most common cause of abscess of this kind is, the lodgment of hard fæces in the bowels; by the straining that takes place to expel them the mucous membrane gets torn or abraded at one part, and then the passage of the fæces causes ulceration. Sometime afterwards straining again occurs, and then the muscular tunic gives way, and the fæces escape into the cellular texture. I was called in by a gentleman who complained of great irritation about the rectum. I thought that he laboured under internal piles, but the next day he complained still more, and on examination of the rectum I found a hard substance sticking in the membrane. It was a piece of apple-core which he had swallowed the day before, and if it had not been extracted it would have occasioned ulceration, some of the fæces would have been pressed through the opening, and in all probability the apple-core would have been found in the cavity of the abscess. I was sent for to see another gentleman who was exceedingly ill with a large abscess in front of the anus. He had a brown or rather a black tongue, and had typhoid symptoms. I opened the abscess freely, let out a quantity of putrid offensive matter, and, on introducing my finger into the abscess, I found a long fish-bone sticking across, with one end in the gut and the other in the

ncture of cantharides, in a draught three times daily, and such plan of treatment will sometimes be useful. But it is right to state, that in a great number of cases of chronic paraplegia the disease is incurable. The disease, however, may go on for years before it ascends to the brain and destroys life.
Lancet, Dec. 30, 1843, *p.* 426.

Fistula in ano.—[Some of the most interesting and important observations of this truly eminent and practical surgeon, are on the subject of *fistula in ano.* Every practical surgeon is aware of the difficulty of healing an abscess in the vicinity of the rectum. The parietes of such an abscess contract and become hard and callous, in which stage the disease takes the name of *fistula in ano.*]

The first question that presents itself is this—Why is it that abscesses are so particularly liable to form in the situation in question, and that when so formed they do not heal like abscesses occurring in other parts of the cellular membrane? I formerly supposed that the healing process was prevented chiefly by the irregular action of the sphincter and levator ani muscles. Further consideration, however, and more mature experience, have led me to the conclusion that this opinion was incorrect. That such causes may interfere with the healing of any abscess I well know, but I am now fully satisfied that they will not afford sufficient explanation why it so rarely happens that abscesses near the rectum heal spontaneously, and at any rate, it is quite clear that the action of these muscles will not explain the formation of these abscesses. In order to explain their formation I must call attention to what happens in other parts of the intestinal canal. The mucous membrane, under a variety of circumstances, is liable to ulcerate. In patients who die from diseased liver, or phthisis pulmonalis, or at the end of continued fever, and various other diseases, you find the mucous membrane of the bowels ulcerated. This ulceration seldom extends further, does not involve the muscular tunic, but sometimes the latter is affected, and then some of the contents of the intestines escape. Should this occur where the intestine is covered by the peritoneum, the contents may escape into the peritoneal cavity.

Every person who has had much experience of disease, has seen cases of this kind; but there are others in which both the muscular tunic and the peritoneal coat ulcerate, and yet the contents of the intestine do not escape into the cavity. Adhesions take place round the ulcerated spot before the ulceration of the peritoneal coat is completed, and these adhesions cause the contents to escape not into the peritoneal cavity, but to become infiltrated into the cellular membrane of some part of the abdominal parietes. A young man, of seventeen or eighteen years of age, who had long been in ill health from disease of the lungs, and who was indisposed in other ways, was supposed to be rather better than usual, but one evening he was seized with violent pain in one side, and there was considerable tenderness of the whole of the abdomen. Two physicians were sent for, the symptoms were not exactly those of peritoneal inflammation, but they could not explain the symptoms so well in any other way as by assuming that he laboured under peritoneal inflammation. The inflammatory symptoms subsided, and two or three months afterwards I was called in to see him on account of a tumour which had formed in front of the belly. It was an abscess; I opened it, and there came out pus, and with it a good deal of foreign matter, which I was satisfied must have come from the intestinal canal. The abscess made its way in several other places, and ultimately this young man died. On examining the body after death, it was found that there were ulcerations at the lower part of the ileum; one of these ulcers had extended through the muscular and peritoneal tunics, but around that ulcer the ileum had contracted adhesions to the abdominal parieties above the groin, and the matter had escaped into the cellular membrane between the layers of the abdominal muscles, and from thence had made its way forward to the part where I opened it. This patient died, but it is not a matter of course that, under such circumstances, such should be the result.

I believe that this is the way in which fistulæ in ano are always formed, namely, the disease is originally an ulcer of the mucous membrane of the bowel, extending through the muscular tunic into the cellular membrane external to the intestine; and I will state my reasons for entertaining that opinion. The matter is one of great interest as a question of pathology, but it is one of great importance, as I shall show, by-and-by, in connection with surgical practice. It is admitted by every one that in the greater number of cases of fistulæ in ano there is an inner opening to the gut as well as the outer opening; and I am satisfied that the inner opening always exists, because I scarcely ever fail to find it, now that I look for it in the proper place and seek it carefully. I have, in a dead body, examined the parts where fistulæ had existed several times, and in every instance I have found an inner opening to it. This affords a very reasonable explanation of the formation of these abscesses; it is almost impossible to understand, on any other ground, why suppuration should take place in the vicinity of the rectum more than in any other part of the body, and why the cellular membrane there should suppurate more than cellular membrane elsewhere. Moreover, the pus contained in an abscess near the rectum scarcely ever presents the appearance of laudable pus—it is always dirty-coloured and offensive to the smell—sometimes highly offensive, and occasionally you find feculent matter in it quite distinct. There is no reason why an abscess simply formed in the cellular membrane should smell of sulphuretted hydrogen; but there is a good reason why it should do so if it be connected with the rectum.

This being the case, it is easy to understand why these abscesses do not heal. The least quantity of mucus, even from the gut, or of feculent matter, issuing into the cavity of the abscess, is sufficient to occasion irritation and prevent it healing, and I have more than once, in the living person, been able to trace the progress of the formation of these abscesses. For example, I was sent for to see a lady who complained of some irritation about the rectum, and on examining it I found an ulcer at the posterior part. I ordered her to take Ward's paste—confec. piperis nigr., or cubebs pepper, I forget which. A month afterwards she again sent for me, and I found that there was an abscess. I opened it, and from the outer opening the probe passed into the gut through the ulcer which had been the original cause of the disease. The original opening of the abscess is generally very small indeed, but occasionally it is large, and when the ulceration has proceeded to some extent, large enough to admit the end of the little finger. The inner orifice is, I believe, always situated immediately above the sphincter muscle, just the part where the fæces are liable to be stopped, and where an ulcer is most likely to extend through both the tunics.

I believe that the most common cause of abscess of this kind is, the lodgment of hard fæces in the bowels; by the straining that takes place to expel them the mucous membrane gets torn or abraded at one part, and then the passage of the fæces causes ulceration. Sometime afterwards straining again occurs, and then the muscular tunic gives way, and the fæces escape into the cellular texture. I was called in by a gentleman who complained of great irritation about the rectum. I thought that he laboured under internal piles, but the next day he complained still more, and on examination of the rectum I found a hard substance sticking in the membrane. It was a piece of apple-core which he had swallowed the day before, and if it had not been extracted it would have occasioned ulceration, some of the fæces would have been pressed through the opening, and in all probability the apple-core would have been found in the cavity of the abscess. I was sent for to see another gentleman who was exceedingly ill with a large abscess in front of the anus. He had a brown or rather a black tongue, and had typhoid symptoms. I opened the abscess freely, let out a quantity of putrid offensive matter, and, on introducing my finger into the abscess, I found a long fish-bone sticking across, with one end in the gut and the other in the

abscess. He had swallowed the bone, it had stuck in the bowel, and a little of the fæces escaping by the side made a putrid abscess. Patients with disease of the liver, disease of the lungs, and in certain states of ill health, are specially liable to abscess and fistula of the rectum. The reason is this: persons thus affected are peculiarly liable to ulcer of the mucous membrane; one of the mucous glandules is attacked, and being very thin it gives way under the straining that takes place to expel the fæces, and fæces escape through the opening.

The first formation of an abscess about the rectum is not in general attended with very urgent symptoms. The patient has a sense of bearing down, a fulness and weight; he thinks that he has got piles; he puts his hand by the side of the anus, and finds a little hardness. After a time it increases, the parts become tender; there is pain when he passes his evacuations; perhaps some difficulty in passing them; by-and-by the pain becomes still greater, the skin inflames, the abscess, if left to itself, bursts, and a quantity of matter is discharged, which matter is almost invariably offensive, dark-coloured, and putrid. The disease sometimes forms so insidiously that the patient is not cognizant of it till the abscess has burst. Twenty years ago a physician in large practice in London felt very ill, languid, listless, unfit for business; and in the middle of the day, in consequence of headache and an incapability of exertion, wanted to go home and lie down for an hour before he could finish seeing his patients. One afternoon, intending to walk home, he had sent away his carriage. He found something give way, burst into his small-clothes, and on his return he found that it was a putrid abscess—a fistula. He went through an operation for it, and got well.

While these abscesses are forming there is sometimes little or no constitutional disturbance; but in other instances there is a great deal of it, and I believe that it depends chiefly on the quality of the pus, and that, again, on the size of the opening. If the opening be pretty large, and a considerable quantity of feculent matter escapes, the pus is then of a very putrid quality, and the more putrid its character the more offensive it is to the smell, and the more poisonous it is to the patient's system; for as it is more offensive to the smell so it is more loaded with sulphuretted hydrogen. Such a collection of putrid matter sometimes produces very urgent symptoms.

I have stated that the inner orifice of the abscess is always just above the sphincter muscle, and it may be that the abscess extends no higher than this. But in a great number of cases it does extend higher up—sometimes one inch, sometimes two; nay, I have sometimes found a probe pass four or five inches up the pelvis into a large cavity beside the rectum. These are cases of some interest, respecting which I shall have to speak to you again presently. The external orifice of the abscess is generally in the skin, a little distance from the anus. Sometimes it seems to pass through the substance of the sphincter muscle, and on other occasions it opens externally to it. The abscess may burrow, and may be two or three inches away from the anus.

In some cases there is no external opening at all, and that may happen in two ways. I saw a gentleman who had an ulcer at the posterior part of the rectum as broad as a fourpenny piece. Some time afterwards I saw him again, and there was then a considerable discharge from the rectum, but no external opening. I introduced my finger into the rectum, and found that this broad ulcer had made a large cavity, in which matter was lodged, by the rectum. The sinus was so large that the matter had found its way out by the gut, and therefore did not burrow so as to make an external opening. But in other cases there is no external, while there are two internal openings, and they are found in the following manner:—There is a small opening through which the pus and fæces were originally infiltrated into the cellular membrane, and then the matter having collected near the gut, bursts into it, and makes a free opening in the neighbourhood of the first

lesion. On examining the patient you find a discharge of pus from the inside of the rectum, and on introducing the finger you find distinctly the opening through which the abscess has burst into the rectum. This is what is commonly called blind fistula. The discharge in these cases is seldom quite constant; for the opening made by the bursting of the abscess into the rectum is not so large but what it sometimes contracts, and there not being a free discharge the matter collects, and you may feel it through the skin near the anus. This is important with regard to the treatment, as I shall explain hereafter. At other times the orifice allows the matter to escape by the rectum, and then the external tumour disappears.

In some cases there is a simple abscess and a simple sinus; but in other instances the disease is very complicated. The matter does not easily get to the surface, and it burrows in different directions; there is a sinus in this direction, and a sinus in that; sometimes it extends even to the middle of the nates, and there may be a sinus on both sides of the rectum. In these cases, where there are several sinuses, and where the disease is rendered complicated from the burrowing of the matter, it sometimes happens that there are two internal openings; but in general, however complicated the case may be, there is only one internal opening, and that communicates directly with one sinus, and indirectly with another. It is of great consequence to bear this in mind as connected with the surgical treatment. Where there are several sinuses burrowing in different directions, the patient always experiences some degree of inconvenience. The matter lodges in one place, not in another, but wherever it lodges it occasions pain; there is an attack of shivering, and then the matter escapes. It then lodges in another place, there is another attack of shivering, and in these complicated cases the patient is continually suffering local pain and tenderness, and these are combined with constitutional disturbance.

I now come to consider the treatment of these cases. Why is it that the abscess does not heal? It may, as I supposed formerly, partly arise from the unfavourable locality for healing, in consequence of the muscular fibres of the parts being always in motion. The levator muscle and the sphincter ani are constantly drawing the parts asunder, so that they are not allowed to contract, but that is not a sufficient explanation. There is an internal opening to the abscess, and now and then a little bit of fæces or mucus will become infiltrated, and get into the cavity. That which produced the abscess originally is going on still. If you could get the inner orifice to close, the patient would soon recover. This does sometimes take place. I saw a patient who had an abscess by the side of the rectum, and to whom I recommended an operation, but for some reason or other he wished to put it off. He went about for a considerable time with this abscess, and when I saw him again the abscess was closed, and had been closed so long, and on a careful examination the parts seemed so sound, that I had no doubt that the inner orifice had healed spontaneously; the escape of feculent matter was thereby prevented, and all the parts granulated and contracted like an abscess elsewhere. The medicine which we now call confec. piperis nigri was originally a quack medicine, known by the name of Ward's paste. It is composed chiefly of black pepper and elecampane, and it had the reputation of curing fistula. I believe that it sometimes did so. It is very useful in the case of piles, and where there is an ulcer of the rectum unconnected with fistula. The black pepper mixes with the fæces, it passes down the canal, and becomes a stimulant to the mucous membrane. In this point of view it is useful to persons that suffer from disease of the mucous membrane after dysentery, or who have disease of the rectum. As it will cure piles, and an ulcer of the rectum, so no doubt it will sometimes cure fistula. If the little ulcerated opening can be made to contract and cicatrise, there is no reason why the external abscess should not heal. But you cannot depend on such a mode of treatment as this; it may or it may not happen to cure the patient, and for one instance in which it effects a cure it fails a great number of times. The

disease, however, may generally be cured by a very simple operation, and in speaking of the operation we will take the simplest case first. We will assume that there is a fistula just by the side of the sphincter muscle, and only one sinus. The first thing to be done is to find the inner opening. I do not say that you will always succeed in finding it—certainly not the first time, but you will rarely fail if you look for it in the right place. Formerly I often failed, and for this reason—I did not know where to look for it. I used to think that it was to be found in the upper part of the sinus; but it is never found there if the sinus runs high up. You must search for it immediately above the sphincter muscle. Another circumstance that makes it difficult to find, is this: The common probe being quite round, turns round in the hand; you want a probe of a much broader kind, so that the least motion of the hand turns the point another way. For this operation I use the probe I now show you, made by Philip and Wicker, in St James' street. First, it has a flat handle, and that gives you a perfect command of the instrument; secondly, at the extremity it is like a common probe; but you must have probes of different sizes. There is a groove, so that it is both a probe and a director at the same time, and being made of silver it is perfectly pliable.

Now, to find the inner opening, place the patient over a table to the light, with an assistant to hold the legs. You introduce the fourth finger of the right hand into the rectum, remembering that the opening is close to the sphincter muscle. You will feel with the finger some little irregularity, and that is where the opening is probably situated. You are then to introduce this probe into the external opening, with the assistance of the finger in the rectum, using no force, and by a careful manipulation feeling first in one direction and then in another, at last it will almost alone pass through into the rectum. It must be done gently, and a little practice will enable you to find the inner opening. You ascertain when it has passed through the opening by its coming in contact with the finger. If you do not find the opening the first day put off the operation to another day. Occasionally I have tried two or three times before I could discover the opening, but generally, if you have probes of different sizes, it is easily found. Sometimes the opening is very small, and therefore requires a small probe. When you have found the inner opening, and the probe is in contact with your finger, you bend the end, and bring it out at the anus. Thus, the part towards the handle is seen projecting from the outer opening, and the other part from the anus, while the parts which are to be divided lie upon the groove of the director. I generally divide the fistula with a pair of curved knife-edged scissors, for they cut better than a bistoury. A bistoury tears, and you may cut your own finger if you use the sharp edge. Introduce the scissors along the groove of the director, and divide the parts that lie between the inner and the outer orifice. There is scarcely anything to be divided—not above an inch or an inch and a quarter, but you divide the greater part of the sphincter muscle.

Having performed this operation, all you have to do is, to prevent the cut edges growing together. You have made it into a sore, some of the fæces go into the sore, but they do not lie and lodge there, and there is nothing to prevent this fistula, which is now made into an open sore, granulating and healing. All you have to do is to dress the parts very lightly between the cut edges to prevent them growing together, and that must be continued until the cut edges are skinned over. You may then leave the parts alone, and the healing process will go on.

But suppose that the fistula extends high up by the side of the rectum, above the opening, and that this fistula is burrowing, what is then to be done? I used to imagine formerly that it was nesessary to lay open the whole sinus into the rectum, but it is a frightful operation to lay open so long a sinus. You do not know what vessels you divide. There is seldom much bleeding in dividing the parts between the inner and the outer opening, but if there be much the pressure of the finger and a bit of lint stop it directly.

I remember a case where I divided a fistula some way up by the side of the gut, and the whole canal was filled with blood. It is true the bleeding stopped, and the patient got well, but still he might have died from hæmorrhage. The bleeding goes on insidiously; you do not know how to stop it; it is internal; you cannot take up the vessels, and you cannot make pressure in any efficient manner. But I am now satisfied, and have been for a long time, that the division of a fistula which extends above the inner orifice is quite an unnecessary proceeding. Upwards of twenty years ago, when I was first getting into practice, I had a patient with a fistula, which I divided, or, at least, thought I had done it. But one day, when examining it with a probe, I found a sinus running up by the side of the gut for several inches. It seemed as if one side of the rectum was completely dissected from the neighbouring parts, but there was a good opening at the lower part where I had divided the fistula. Not knowing what to do with the case, I called in the late Mr. Cline, and observed to him that if I divided it the whole length the patient might die from loss of blood. He said, "You are quite right, but more than that, I do not think it necessary; I would leave it alone." There was a free opening below; the fæces could not escape so easily now, and get into the cavity above. I adopted his advice, and the patient got well without any trouble. I have since seen other cases of the same kind. Where there has been a large sinus, connected with a fistula, I have laid open the parts between the inner and the outer orifice—done nothing more—and the patient has got well. If a very long sinus, and a very large cavity, heal up without being laid open, *a fortiori*, if there be a small sinus, and a small cavity, that will heal up too.

I now come to consider what is to be done in a case of fistula attended with some complication.

The external orifice of the fistula is sometimes at a considerable distance from the verge of the anus, perhaps two or three inches, and in some cases it is as far off even as the buttock. You may, if you please, perform the operation in the same manner. You may pass the probe in at the outer orifice along the fistula into the rectum, feel for the end of the probe in the bowel, and then divide the whole. This, however, is a very serious operation, and a very painful one; you may have considerable hæmorrhage, and under any circumstances there is a very large surface that is to be healed by granulation. But the fact is, this extensive division of parts is really not necessary, and it may be avoided by proceeding in the following manner:—Introduce what I may call the probe-director through the external and internal orfice of the fistula, in the way I have described, and then feel for the probe at some little distance—we will say three-quarters of an inch from the anus. Having felt the probe in that situation, which you may generally do with great ease, with a lancet or double-edged scalpel make an opening through the skin and adipose substance leading down to the groove of the director. You thus make a new external orifice to the fistula; you then withdraw the probe, pass it into the new orifice you have made, through that into the sinus, and then into the rectum. You then bend the probe, bring out the extremity at the anus, and with a pair of knife-edged scissors, divide the parts that lie over the director, and thus you obtain all that is wanted by a very small division of the soft parts. The fistula is prevented healing by the fæces escaping into it from the rectum and lodging in the narrow channel. Without some such cause as this the whole fistula would heal at once. It is true that the external extremity of the fistula remains undivided, but the fæces cannot pass into it, and in a very short time it heals spontaneously. The internal part is made an open sore, which must be dressed from the bottom, and it heals in the usual manner.

The matter, however, may have burrowed, and made many sinuses—a sinus in one direction, and a sinus in another. Sometimes these complicated sinuses are confined to one side of the gut; in other cases they are formed on both sides of it. Before you proceed to the performance of an operation in these cases, you must examine the patient very carefully, and

it is very probable that three or four examinations will be required before you can ascertain the exact state of the parts sufficiently to guide you in the operation. Introduce the forefinger of the left hand into the gut; then examine the different sinuses, and ascertain whether there is one or more internal communications with the rectum. It very often happens that where there are several sinuses external to the gut, communicating with each other, there is one that is the original sinus, and which has an opening into the bowel. But sometimes there may be a double communication, and then your business is, if possible, to ascertain which is the original sinus, and to lay that open in the way I have already explained, while the others very often need not to be touched at all. If the original sinus be made an open sore the fæces will not pass into the secondary sinus, and there will be nothing to prevent them from healing.

I have stated that very often it is unnecessary to open more than a single sinus, but there are exceptions to that rule; for there may be sinuses in which the matter lodges, and from which the matter that is formed does not freely escape. These sinuses require to be laid open, not for the purpose of preventing the fæces lodging in them, but on account of the secretion of the sinus itself, just as sinuses anywhere else, from which matter does not freely escape, may require to be freely opened.

I have already stated that if you conduct your examination carefully, and look for the internal orifice of the fistula in the right place, just immediately above the sphincter muscle, you will scarcely ever fail to find it; that if you do not succeed on the first occasion, you will on the second or third. But sometimes the opening is so small, and the sinus takes such a circuitous course, that even after two or three examinations you cannot find it. This will occur sometimes, not very often, and what is then to be done? Perhaps if you were to delay the operation still longer you might discover it, but the patient grows uneasy and impatient at the cure not being completed, and is anxious for something to be done. You must then do what Mr. Pott recommends to be done on all occasions, and which, though a bad practice on all occasions, is a good one sometimes. An artificial opening must then be made into the gut, and you must use the probe-director, or a common probe-pointed bistoury, just as you please. With the forefinger of one hand in the rectum to assist you, you must, with the instrument, whichever you use, perforate the membrane of the gut some way above the sphincter muscle, and then divide the sinus. But this is, after all, a very unsatisfactory way of doing the operation, and you may rest assured that if you make an artificial opening and fail to find the real and original opening, in three cases out of four you will be plagued afterwards. You have made an artificial opening, but the original one remains, and you go on dressing the sore; but there is a little infiltration of fæces and mucus into it that prevents its being healed. When you have to make an artificial opening in the way I have stated, I advise you to do something more. Having made the artificial opening, and laid the fistula open into the gut, take a straight probe-pointed bistoury, introduce it into the rectum, turn its cutting edge outward, divide the sphincter muscle, and set that completely at liberty. No large division of parts is necessary for this purpose, but having set the sphincter muscle completely at liberty you will scarcely have any trouble in the healing of the sinus. This is better than merely laying open the sinus into the gut, where you cannot find the internal orifice; but it is not so good as the operation where you can find it, because you have more bleeding, you give the patient more pain, and there is a large wound to heal. I may, however, take this opportunity of mentioning, that, although the bleeding from the division of the sphincter muscle is considerable at the time, yet it is never dangerous, because it is within reach. Probably, you may see the vessel that is divided, and can secure it by a ligature; but if not, a dossil of lint, dipped in a styptic lotion, laid on the part, and kept there by the finger of an assistant for half an hour, will always stop it.

I mentioned in the last lecture two classes of cases in which the fistula has no external orifice. In one of these there is a small internal opening, and the fæces having penetrated the cellular membrane external to the gut, an abscess has been formed which has burst into the rectum by another opening. In these cases, by making pressure externally, you may generally feel where the matter is lodged. One day the bag is empty, another it is full. Take the opportunity when it is full, and you can feel where it is situated, to make a puncture into it with a lancet, and having so done you reduce it into the state of a common fistula, except that there are two internal openings into it instead of one. You then introduce the probe into the rectum, and divide the fistula in the usual manner. You must, if you can, discover both the internal openings, and let them both be included in the incision that you make.

I stated that there was another case in which there was an ulcerated cavity in the neighborhood of the rectum having no external communication, and where the orifice was originally not like a pin-hole, as in common cases, but sufficiently large to admit the end of the little finger. The ulcer has gone on until it has made a considerable cavity by the side of the gut, having no external opening; and here you are to proceed in the following manner:—The broad internal opening is always close to the sphincter muscle, and at the back part just opposite to the os coccygis. You must be provided with a probe, bent like the one on the table. The probe is to be passed into the rectum, and then drawn down again, so that the point may enter the ulcerated cavity. The point of the probe is felt under the skin: the skin must be punctured with a lancet, and you then introduce the probe-director through the aperture and divide the fistula in the usual manner.

Now, there is another form of fistula in the rectum that requires very especial notice. I cannot better explain what I mean than by mentioning the following case: There was a middle-aged lady who had an abscess formed in front of the rectum. I imagine that it arose, in the usual manner, from ulceration of the gut. The abscess burst close by the posterior margin of the vagina, and appeared just like a common fistula. She consulted a surgeon, who inadvertently treated it as such, and laid it open into the gut. But what was the consequence? He divided both the sphincter ani and the sphincter vaginæ, and the wound never perfectly healed. She was in the condition of a patient with lacerated perineum, and all the rest of her life was liable to an involuntary discharge of fæces, of course making her life miserable.

I saw this case some twenty-five years ago, and it was, as you may suppose, a lesson to me ever afterwards. It is not very often that abscesses of the rectum do burst in this situation; I have only seen a few examples of it, but the case that I have mentioned was sufficient to show me that some peculiar mode of treatment was necessary. How is such a case to be treated? I have seen two or three cases of this kind of fistula since, without having an opportunity of following up the treatment, and no such opportunity occurred till last year. A lady consulted we with a fistula communicating with the rectum in front, and opening externally just at the beginning of the vagina. I merely made a free division of the sphincter muscle on both sides so as to set it completely at liberty. I dressed the cut edges of the sphincter muscle, and it was a good while before it regained its complete usefulness. That was just what I intended. The discharge from the fistula immediately became very much diminished; it continued gradually diminishing, and when I last saw her, which was some few months after the operation, it appeared to me that the fistula was soundly healed. Why is it that the fæces get so readily infiltrated into the internal orifice of the fistula? Because there is an obstruction to their passage, occasioned by the sphincter muscle. I divided that muscle, removed that obstruction, and the fæces escaped so easily that they did not get into the internal orifice of the fistula. I was led to adopt this plan of treatment from the course pursued by Mr. Copeland in another case. He says that he was consulted by a lady who

had an ulcerated opening between the rectum and the vagina. He divided the sphincter muscle, set it completely at liberty, and after the lapse of some time the recto-vaginal communication was closed, and at last firmly cicatrised.

Having stated how these fistulous sinuses are to be laid open, let me say a few words about the dressing. First of all, if the operation be done in a proper manner, there is very little in general to dress—it is only a narrow sore that remains to be dressed. Do not cram it with lint; all that is necessary is to put a little lint between the edges to prevent them prematurely healing. The parts about the rectum are very often a little longer in healing, and it may be worth while to dress them with red precipitate ointment. When the parts are beginning to granulate you may hasten their cicatrisation, and the formation of new skin, by touching them lightly over with the nitrate of silver. It is very seldom necessary, except in complicated cases, to dress the fistula for any length of time; a few days' dressing is very often quite sufficient. As soon as the cut edges are skinned over, the dressing is hardly necessary, and it will save both you and the patient a good deal of trouble merely to touch the surface of the sore lightly every other day with the nitrate of silver. When the edges are fairly skinned over, the rest will skin over sooner without the dressing than with it. If you cram the part full of lint, you occasion the patient a great deal of pain. I am sure that sometimes, from too much lint being crammed in, the matter does not freely escape, it burrows in the cellular membrane, and makes a fresh sinus.

There are some cases in which abscesses occur about the rectum, which may be confounded with that particular disease I have just described, and I shall explain them in order that you may draw the distinction between them. An abscess sometimes forms in an external pile. The patient has an external pile; it inflames and suppurates, and on going to him you find the abscess just on the point of bursting. You open it and let out a teaspoonful or more of matter, but on passing in a probe it will not go up by the side of the gut. This is a very troublesome sort of abscess, it is very painful, the patient can hardly bear to go to the water-closet, and he has pain in passing the last drops of urine.

The treatment is very simple. You cure it at once radically by snipping off the external pile, abscess and all, with a pair of curved scissors.

The same thing will sometimes happen with an internal pile, inflammation takes place in it, an abscess forms and bursts externally, and you can pass a probe into the abscess in the inside of the pile. Here, also, the best way is, if the pile be small, to snip it off with a pair of scissors, or if it be not small, to tie it with a silk thread round the base, and destroy it by ligature. I may here mention an error into which you will be liable to fall if you be not on your guard against it. When you introduce a probe into an abscess formed in an internal pile it very easily breaks down the slender wall of the abscess, and runs into the cellular substance under the mucous membrane. The cellular tissue offers so little resistance to the probe that it may pass in any number of inches between the mucous membrane and the muscular tunic without your being aware of the circumstance. I remember a case many years ago where a surgeon of great eminence in this town laid open what he thought was a sinus of two or three inches in length into the rectum. I am satisfied, from what I remember of the case and have since seen, that it was an abscess formed in an internal pile, and that what he supposed to be a sinus was neither more nor less than a space he had made himself by running the probe into the loose cellular texture.

It is necessary in the very great majority of cases to lay the kind of sinuses to which I have alluded completely open into the rectum: and I presume that it is from the analogy to fistula here that some surgeons have been led to think that this operation was necessary for all kinds of fistulous sinuses. I remember some very good surgeons in this town who used to think it was requisite to open what is termeda fistula in perineo in this manner. There can be no greater error.

A fistula in perineo is the same as a fistula in ano, except that it communicates with the urethra behind a stricture, whereas a fistula in ano communicates with the rectum above the sphincter muscle. The fistula in perineo is the result of some of the urine passing in from the urethra, and to lay it open will do no good, for it will not prevent the escape of urine going on. But this may be accomplished by dilating the stricture, and in nineteen cases out of twenty, all that you have to do is, to dilate the stricture. Generally, by the time the stricture is dilated, the urine, finding a readier passage forward than it does through the ulcerated opening, it will not pass into the latter, and the fistula is usually healed by the time the stricture is dilated. If it be not completely healed by that time you have only to keep the stricture dilated for a considerable period by the introduction of an instrument every day, or every other day, and the fistula in perineo will at last heal. If it be a large opening it will take some months to heal, but still it heals spontaneously. There is only one kind of case in which it is necessary to lay open a fistula in perineo, and that is, where there is a sinus in the perineum into which the urine escapes, but which is so situated that neither the urine nor the matter secreted in the sinus can find egress. If there be a fistula in perineo under these circumstances it may require to be opened.

There are some fistulous sinuses that exist in the groin in connection with disease in the glands of the groin. Surgeons formerly supposed that these required to be laid open like a fistula in ano. They do require to be opened where matter lodges in them and cannot escape, or, at any rate, a counter opening will be necessary; for there is no disposition to heal unless the matter escapes as fast as it is secreted; but the mere laying open of the fistula will not cause it to heal, it will only prevent it extending. What hinders the fistula in the groin from healing? The diseased gland at the bottom of it. If you wish the fistula to heal you must destroy the diseased gland, or bring it into a healthy condition. Sometimes it may be necessary to dissect out the gland or destroy it by a powerful escharotic; but in the greater number of cases, if you attend to the general health, the diseased gland recovers itself; and so soon, and no sooner, will the sinus in the groin heal.

The same observation applies to fistulæ that are connected with dead bone. A fistulous sinus leading down to dead bones does not heal because there is dead bone in the bottom; but if the dead bone comes away then the fistula will heal. It is needless to lay open the fistula to inject stimulating liquors into it, or to do anything till the dead bone has been removed. All that it is worth while to do is, if matter lodges in it, to make a counter-opening by which it may escape. *Lancet, Jan.* 27, 1844, *p.* 561.

On the use of Mercury in Syphilis.—[In this lecture Sir Benjamin does not enter into detail either as to the mode of exhibiting mercury in syphilis, or the cases in which recourse should be had to it, but makes some general and practical observations, chiefly on the cases in which it is to be avoided, stating in general terms that he depends more upon its use for the generality of cases, than upon any other known remedy. When Mr. Rose was so successful in curing syphilis among the Guards without mercury, he was obliged to have recouse to it when he entered into private practice.

Now, I have said that in the great majority of cases mercury is the best remedy you can employ for the cure of syphilis, but then care must be taken that it is properly and judiciously administered. There are different ways of exhibiting mercury; it may be given internally by pills; it may be used in the form of ointment, or by fumigation. The mercurial preparations that may be given internally are various—blue pill, mercury with chalk, calomel combined with opium, Plummer's pill, iodide of mercury, bichloride of mercury, and some other forms.

I have often given mercury internally in the shape of pills. When you want to affect the system rapidly, as in iritis, pills are preferable, because the mercury affects the system sooner. A patient labouring under iritis is

n danger of going blind, and you must remove it as soon as you can. You effect this much sooner by giving calomel and opium than by using mercurial inunction, and in slight cases the disease may be cured by mercury administered internally. There are a good many patients so circumstanced that they cannot take it in any other manner; at other times you are indifferent about the mode of administration; and in some cases you are compelled to give it internally against your inclination. Thus, upon the whole, there are a good many cases in which mercury will be exhibited internally.

But if you inquire which is the best way of giving mercury in cases of syphilis where the symptoms are not of the very mildest character, I must say that mercurial inunction is infinitely to be preferred to mercury taken by the mouth. Mercurial inunction, however, is dirty, laborious, and troublesome, and it makes the case public to the family in which the man lives. For these reasons it will be objectionable to the patient; but it has this advantage, it is much less liable to gripe and purge, and it cures the disease a great deal better. It does not damage the constitution half so much as mercury taken by the mouth; nay, I will go so far as to say that, except in the very slightest cases, you really cannot depend upon any mercurial treatment effecting a certain cure, or even giving a good chance of it, by any other means than inunction. You may very often patch up the disease by giving mercury internally, but it will return again and again, and you may cure it at last by a good course of mercurial ointment. But especial care must be taken that this is properly applied. If it be left to a patient he will rub it in for five minutes or so, whereas it requires to be rubbed in before the fire for three-quarters of an hour ere it enters; but by and by the friction may be continued for a shorter period. Where the symptoms are not of the mildest character it is desirable that the patient should, if possible, be confined to the house. Mr. Pearson observed, long since, that going into the fresh air would undo the effect of mercury, and I never will be responsible for thoroughly eradicating the disease where the patient is at all exposed to cold, and where he does not lead a most careful and regular life.

In all cases where you employ mercury you have two objects in view— first, to cure the present symptoms, and, secondly, to prevent their return. It appears to me that at the present day a great number of practitioners keep the first object only in view, and loose sight of the second. I have repeatedly seen persons who have taken mercury for chancre; it was healed in a fortnight, but a hard base has been left, and then in nine cases out of ten there has been secondary symptoms. If it be taken for a primary sore the patient should never leave it off until the hard cicatrix has disappeared. You must exhibit it until the sore is healed, and for some time afterwards; and the same plan must be pursued with reference to the secondary symptoms, or they will return. When the eruption has disappeared from the body it must be used as prophylactic, to prevent the return of disease, for probably another month.

I should say that if the patient be confined to the house, or only allowed to go out a little once or twice a-day, and if he be made to rub in mercury, and continues it for some time after the symptoms have subsided, the case being carefully watched, you will, in most instances, make a real and permanent cure of the disease. This is not the way in which it is administered by many practitioners now, but it is the mode in which it was done formerly. You must not suppose that we have made an advance in all departments of surgery; on the contrary, I am sure that in some we have gone back. I am satisfied that the mercurial treatment of syphilis, as employed by the late Mr. Pearson during a great part of his life, was as nearly perfect as possible, and it was much more successful than the less careful treatment of modern practitioners. Mr. Pearson was surgeon to the Lock Hospital, and having no general hospital to which to attend, the powers of his mind were very much devoted to this disease, and to its treatment; and

the practice which I have now recommended was that which he adopted. I had an opportunity of meeting him a great deal when I was first entering into practice, and I am satisfied that his mode of treatment was eminently successful. In his work on "Materia Medica" there is an article on syphilis, in which there are many excellent observations on mercury, treating the subject in detail in a way in which it is not my intention to do atpresent; but I refer you to that article as being well worthy of perusal.

Wherever you can, in the treatment of syphilis, make the patient take mercury in the form of unction if possible. It is the best plan to pursue in all cases, although it is not necessary in all cases; but where the symptoms are severe, and a long course is required, it is the safest mode of proceeding.

I will avail myself of this opportunity of stating the class of cases in which you may employ mercurial inunction with the greatest advantage. Children, when born, sometimes labour under syphilis, the father or mother having been affected with it—perhaps the father and not the mother. The child at birth looks thin, and is of small size, and instead of thriving it becomes still thinner. At the end of three weeks it is covered by a nasty scaly eruption; there is a sort of aphthæ in the mouth, and chaps about the lips and anus. I have tried different ways of treating such cases. I have given the child grey powder internally, and given mercury to the wet nurse. But mercury exhibited to a child by the mouth generally gripes and purges, seldom doing any good; and given to the wet nurse it does not answer very well, and certainly is a very cruel practice. The mode in which I have treated such cases for some years past has been this—I have spread mercurial ointment, made in the proportion of a drachm to an ounce, over a flannel roller, and bound it round the child once a-day. The child kicks about, and the cuticle being thin the mercury is absorbed. It does not either gripe or purge, nor does it make the gums sore, but cures the disease. I have adopted this practice in a great many cases with the most signal success. Very few children recover in whom mercury is given internally, but I have not seen a case where this method of treatment has failed.

Mercurial inunction may be used in certain cases in which, were mercury taken internally, it would do absolute harm. For example, a gentleman had a nasty phagedenic sore upon the penis; it could not be said that he was in ill health before, and therefore there was some reason to believe that the disease was spreading from the intensity of the venereal poison. He had taken calomel and opium until the gums were sore, and he was decidedly worse under it. The disease destroyed a great part of the glans, and evinced no disposition whatever to stop. It resisted all modes of treatment until he was put on a course of mercurial inunction; its progress was then arrested directly and the sore healed with great rapidity. I have seen several instances of the same character. *Lancet, Feb.* 17, 1844, *p.* 676.

[On scirrhus of the female breast, and on the circumstances under which an operation ought or ought not to be performed, Sir Benjamin gives us the following:—]

Under what circumstances is the operation for the removal of a scirrhous tumour of the breast proper, and under what circumstances is it improper?

If there be a scirrhous tumour imbedded in the gland of the breast, and you remove the tumour, together with the affected part of the breast in which it is situated, leaving the remainder of the breast, according to my experience, the disease is certain to return; and this corresponds to a rule which I think applies to all cases of malignant disease—that is, that you have no security against the return of the disease unless you remove the whole of the organ in which it is seated.

For instance, if there be fungus hæmatodes of the bone of the leg, the patient may have some chance if you amputate the thigh above the knee, but none if you cut through the tibia below the knee. If there be malignant disease of the femur, you have very little chance at all, unless you

think it expedient to take out the thigh bone at the hip joint. I say, therefore, in cases of scirrhous tumour of the breast, if you perform the operation at all, where the tumour is imbedded in the breast, you must remove the whole of the organ. You may imagine that this is a thing very easy to be done, but you will not find it so in reality; for in amputating the breast in a thin person, you will be very apt, if you are not extremely careful, to leave a small slice of the gland of the breast adhering to the skin, and I have no doubt that this small portion may, in some cases, form the nidus of future disease. The colour of the gland of the breast varies little from that of the surrounding adeps, the hæmorrhage causes confusion, and you must be careful in the dissection to keep the knife near the skin, not near the breast. But, in addition to this, in every case, when you have taken out the tumour, you should examine the surface, and see whether every part you have removed is covered by healthy adeps. If it be not, look on the middle of the flap of the skin, and see whether any small portion of the breast has been allowed to remain there.

So far, then, the success of the operation may depend mainly on what you do; but now let us see what are the circumstances that are independent of anything that you do, and which may induce you to think that there is no chance of the operation leading to an ultimate cure; and what are the circumstances that should lead you to hope that a permanent cure may be effected.

Scirrhous tumours of the breast may be divided into two classes; one, where there is a conversion of the gland of the breast itself into scirrhous structure, there being no well-defined margin; the other, where the scirrhous tumour is imbedded in healthy structure, as if it were altogether a new growth, there being a distinct boundary to it.

In the first order of cases, not only does an operation never succeed in making a permanent cure, but it rather hastens the progress of the disease, and the patient generally dies in two or three years, if not before, of effusion of fluid into the cavity of the chest. Where the skin is contaminated there is no chance of the operation making an ultimate and permanent cure; and it may be contaminated in various ways. Scirrhous tubercles form in the skin, here and there, at some distance around the tumour, while the intermediate portions of skin appear to be healthy, and then an operation will never lead to a cure; for you cannot remove all the contaminated skin. Where the skin is contaminated in this way, the progress of the disease is generally very rapid, and the patient dies within a short time from effusion within the chest. Sometimes the contamination of the skin developes itself in another manner. The skin becomes thickened and brawny, the pores are enlarged, as if you looked at them through a magnifying-glass, and you cannot pinch it up as you can healthy skin. This is also a very bad form of the disease. I have, however, performed an operation under these circumstances in two or three cases; the disease has always returned in the cicatrix directly, and the operation has appeared to hasten rather than to retard the fatal result. It does not matter to how small an extent the skin appears to be contaminated; if any portion of it is thus affected, the seeds of disease are in the neighbourhood, and although your knife may divide skin apparently healthy, yet it is not so in reality.

One effect of a scirrhous tumour of the breast, in a great number of cases, is to cause contraction of the lactiferous tubes which pass from different parts of the breast to the nipple, and this contraction gives rise to a drawing in, or retraction of the nipple. I believe that this retraction of the nipple is to be regarded as very unfavourable to the ultimate success of an operation; for I suspect that the disease in these cases has always extended into the skin of the neighbourhood, and if you examine the skin in the neighbourhood of the nipple very carefully, you will generally find manifest indications of disease in it. In many cases of scirrhus of the breast the skin is drawn over the tumour, and on looking at the patient, there is a sort of dimple over the tumour. Where this dimple is seen you may be almost

sure that there is a scirrhous tumour beneath it, and when you examine it you may feel it with the finger. The presence of this dimple is a very great objection to the operation, and there is little or no chance of a permanent cure. What is this indentation of the skin? I have dissected the parts, and I will tell you how it is produced. There is a small elongation of the disease which passes up from the scirrhous tumour through the adeps, into the skin. There is a filament, as it were, of the disease, varying from a quarter to half an inch in length, extending from the scirrhous tumour to the skin above it, and the presence of the dimple indicates that the disease is not confined to the breast, but that the skin is already contaminated.

As the disease advances it contaminates the glands in the axilla. If the breast be inflamed, the glands in the axilla may be enlarged, just as glands may be enlarged from a boil or any other inflammation in the neighbourhood; but when there are large indurated glands in the breast you may be sure that there is the same disease in the axilla—that the glands in the axilla are contaminated, and that there is no ultimate cure to be expected from an operation. You may say, remove the diseased glands from the axilla; I have done this myself, and I have seen it done by others, but I will tell you what always takes place. Perhaps there appears to be only one enlarged gland in the axilla, you attempt to remove it, but when you have got into the axilla, you find that there are other glands contaminated in the same manner, though of too small a size to be perceived before.

I need hardly state that if the scirrhous tumour adheres to the parts below, to the pectoral muscle, or to the ribs, and the skin is ulcerated, there is no chance of a permanent cure from the operation. You will sometimes find patients who, while they have a scirrhous tumour in the breast, have indications of some other form of malignant disease in other organs. One patient may have signs of malignant disease of the liver, another of the lungs, and another of the uterus. Of course, if there be any suspicion of the same mischief going on in internal organs, you will know that no permanent cure is to be expected by the removal of the diseased breast.

You must also take into account the state of the patient's health, her age, and her condition in other respects. If, for instance, an old woman labours under scirrhus of the breast, which is in a state of quiescence, you would never think of amputating the breast, because she may die first—the disease may out-last her. Now having taken away these cases, you will find, in practice, that there are very few left in which you will think it right to propose an operation.

What are the cases, then, in which an operation for the removal of the breast is proper? Where the skin is perfectly sound; where the nipple is not retracted; where there is no diseased gland in the axilla; where there is no sign of internal mischief; where there is no adhesion of the breast to the parts below; and where the patient is not very much advanced in life, I should say that there is a reasonable chance of an operation making a cure. I do not intend to say that in all the excepted cases there will be a permanent cure—far from it: but there will be in some instances, and the chance of it may be sufficient to warrant you in recommending the patient to submit to the operation. I have the satisfaction of knowing that several persons on whom I have operated under these circumstances are now alive and well, but who would certainly have been dead long since had I not had recourse to it. As long since as 1832 I removed a breast affected with scirrhous tumour, and the lady was alive and well last year. Since the operation she has married and borne children. Last year I was called to see a lady on whom I performed the operation as long ago as 1830, and there she was, still alive and well.

But besides such cases as I have last described, there are others in which the operation for a scirrhous tumour connected with the breast may be proper. There is sometimes formed on the surface of the breast a hard tumour, which feels like scirrhus; on cutting into it it looks like scirrhus, and I can give it no other name. It appears to be unconnected with the breast, but

when you come to remove it you find that it is attached to the surface of the breast, just at one narrow corner. I have removed three tumours of this kind, leaving the breast uncut, except where I separated the tumours from it, and in each of these three cases the patient was alive and well some time afterwards. I do not know that in any one of these cases there was really a return of the disease.

Scirrhous tumours sometimes take place in the nipple, and I believe they are to be distinguished from similar tumours in the breast itself, and that there is a much greater chance of a permanent cure where they originate in the nipple than where they have their origin in the breast. There may be cases in which you are justified in performing an operation for the removal of a scirrhous tumour of the breast, not with the expectation of effecting a permanent cure, but to obtain respite and relief, to prevent sufferings. But here you must use some discrimination, for if the skin be thoroughly diseased I do not believe that in one case you will do any good; the disease will return in the cicatrix so soon that the patient will derive no advantage whatever from the operation.

Take care not to keep the patient very low before the operation. What we used to call preparing a patient for an operation, by low diet on all occasions, was very injurious. The patient need not be stuffed and crammed before an operation; he should have his bowels emptied, but as to repeated purging and low diet, that is wrong both before and after any operation. An operation is a shock to the system, making a great demand upon the vital powers, and if you withhold the sustenance and stimulus to which the patient is accustomed, the constitution probably will not be able to bear the shock.

I have thus spoken of the operation for the removal of a scirrhous tumour of the breast, but this organ is liable to other malignant diseases. The observations that I have made apply to the one case as well as the other, but I think that where malignant disease of the breast has the form of fungus hæmatodes the chance of ultimate success is even less than where it has assumed the form of scirrhus. Fungus hæmatodes is a worse form of malignant disease than scirrhus, and in the few cases which I have seen of it in the breast, where the tumour has been removed by operation, the patient has always died within a short time afterwards from some disease of the lungs and effusion into the pleuræ. But, after all, I believe that malignant disease is essentially of the same character, whether it assumes the form of scirrhus, or fungus hæmatodes, or pancreatic sarcoma. Whatever the name given to them by pathologists may be, I believe that malignant diseases are all nearly related one to another, and that the remarks I have made respecting one are applicable to the rest.

I will illustrate this last observation, which, I think, it is of importance in practice you should not forget, by mentioning some cases. A woman had a scirrhous tumour of the breast, attended with that brawny condition of the skin which I described as indicating a very bad form of the disease. There was a conversion of the glands into scirrhous structure, not a distinct tumour of the breast. She had also signs of disease of the liver and a discharge from the uterus. The woman died, and on examining the breast there was a well-marked scirrhous tumour; in the liver there was an equally well-marked tumour of fungus hæmatodes or medullary disease; and in the uterus that peculiar excrescence to which the late Dr. John Clarke gave the name of cauliflower excrescence of the uterus, and which he describes as a malignant disease.

These three diseases, all of which are malignant, and to which different names have been given by pathologists, were associated in the same individual, and the preparations are now in the museum. But I have seen the same disease occur in succession, and I will mention a case in point. When I was a young man I went with Sir Everard Home to perform a private operation. A lady from the country had a hard tumour, apparently in the abdominal muscles, which he removed, and when we came home and exam-

ined it we found that a portion of peritoneum adhered to it, and that it was a well-marked case of scirrhous tumour. The wound healed very well, but some time afterwards, another tumour formed in the cicatrix, and began to enlarge. She came to London again, and put herself under Sir Everard Home. The tumour was now larger than the first he removed. He operated a second time, but this tumour had none of the characteristic structure of scirrhus. I can only describe it by saying it was like the fibrine of the blood, without colour; laminated something like the buffy surface of a coagulum of blood drawn during inflammation, and very slightly organised. The wound healed, but after a time another tumour formed in the cicatrix, and she again came to London. It was not thought worth while to remove this; it increased in size, occupied a great part of the abdomen, and she died. It devolved on me to examine the body, and the tumour now was entirely different in appearance from either of those which had been removed. It was a regular brain-like mass, a medullary tumour, or a tumour of fungus hæmatodes. In the one case three different kinds of tumour existed in the same individual at the same time; in the other, three different kinds of tumour showed themselves in succession. So you will sometimes remove a tumour from the breast, in various parts of which you have a different structure. *Lancet, Feb.* 3, 1844, *p.* 593.

Mode of taking out a Fatty or Steatomatous Tumour from the Breast.—We know of no internal medicine, nor of any local application, that will disperse these tumours, and the only thing to be done is to remove them by the knife. This may be done when the tumour is quite small. I do not, however, generally recommend the operation at this period; first, because the tumour may never increase, and as long as it is small it is of no consequence; and secondly, because the operation is really more easy when the tumour has attained a certain size. Still, it is better not to let the tumour go to any *very* large size; and for this reason, lest the pressure of the skin should cause it to contract adhesions to the neighbouring parts. Where such adhesions have taken place, the operation is rendered difficult, and you cannot be certain that you do not leave some small portion of it, which may be the nucleus of a future growth. As soon, then, as the tumour becomes large enough to be troublesome from its bulk, you may dissect it out, and this is a simple operation, if you know how to do it, and very difficult otherwise. Make a free incision of the skin, not upon the tumour, but into it, cutting fairly into its substance. Do not spare the incision through the skin, but let it extend from one end to the other. Then lay aside your knife, and you will find that with the fingers you can easily separate the cyst that contains the adipose matter from the neighbouring textures, pulling out one lobe after another, till at last the tumour remains attached only at one corner, that is at the point at which the vessels run in and out. You have no bleeding in any other part of the operation, but in this last part of it you will generally find one or two arteries which you must secure by ligature. When the tumour is situated under a muscle, the operation is to be performed in the same way, with this exception—that besides laying open the skin, you must freely divide the muscle, cutting across the fibres.

[Sir Benjamin gives a curious case which illustrates the value of liquor potassæ in some of these fatty deposits. It is as follows:]

A man came to this hospital some seventeen or eighteen years ago, with a very odd appearance—an enormous double chin, hanging nearly down to the sternum, and an immense swelling at the back part of the neck—two great tumours as big as oranges sticking out, one behind each ear. The patient stated that these tumours had begun to form three or four years before, and had been gradually increasing in size. They gave him no pain, but they made him miserable, and in fact had ruined him. The poor fellow was a gentleman's servant, and having such a strange, grotesque appearance, nobody would hire him. I gave him half a drachm of liquor potassæ three times a-day and gradually increased the dose to a drachm. This

was taken in small beer. About a month after he began to take it, the tumours were sensibly diminished in size. He went on taking the alkali a considerable time, and the tumours continued decreasing. It was just then that iodine began to have a sort of reputation, much beyond what it deserved, for the cure of morbid growths, and I gave him the tincture of iodine. It was curious that while he took the tincture of iodine he lost flesh generally, but the tumours began to grow again. Finding this to be the case, I left off the iodine, and gave him the liquor potassæ a second time. He took an immense quantity altogether, and left the hospital very much improved, being directed to continue to take the medicine for some time longer, off and on. I had lost sight of him for some time, when I happened to be requested to visit a patient in Mortimer-street. I did not observe the servant that opened the door, but as I came down he stopped me in the hall, and said that he wished to thank me for what I had done for him. To my surprise it was this very man. He had gone on taking the caustic alkali for a considerable time, and you may suppose how much he was improved by his being able to get a situation as footman. There were some remains still of the tumours, but nothing that any one would have observed. I have seen some other cases of the same kind, and where I have had the opportunity of giving liquor potassæ it seemed to be of great service. But I have not tried it in every case, and I have been informed that in some other cases it has been tried to a great extent without the same good result.

I suppose that in those, as well as in the other cases of which I have just spoken, the liquor potassæ acts in this manner; the greasy part of the tumour combines with the alkali, is taken into the circulation, and is thus carried off. It was upon this hypothesis, at any rate, that I was led to give this alkali. Whether it be, or be not, the right explanation, I will not say, but of this I am certain, that the remedy is often a very efficient one. But may the liquor potassæ be taken with safety in such large does? Indeed it may, if you dilute it sufficiently. You cannot take even half a drachm in two ounces of liquid without its being inconvenient to the stomach, but you may take a drachm and a half in a large quantity of liquor two or three times daily without any harm. The best liquid in which to take liquor potassæ on this and on many other occasions, is fresh small beer. It seems to me to act better in small beer than when it is given in other ways, and the beer does not disagree with the stomach, because the alkali combines with and neutralises the vinegar which it contains. It is the latter that disagrees with weak stomachs. The alkali and the vinegar together make a diuretic salt, and I suspect that this is advantageous; besides that the alkali is less ungrateful to the taste when taken in small beer than in any other way. However, there are some persons who really cannot take small beer, even with alkali; and others, with whom small beer generally disagrees, can hardly be persuaded that an alkali alters its quality. If there be any reason for not giving it in beer, it may be given in milk and water, or clove-tea, or ginger-tea; but then it should be exhibited in smaller doses, because none of the alkali will be neutralized as it is by the acid of the beer. To do real good the alkali must be taken in large doses, and for a long time together—not for weeks, but for months. A patient may take it on and off for a great length of time without any mischievous effects.

Lancet, March 16, 1844, *p.* 816.

66.—TREATMENT OF VESICO-VAGINAL FISTULA.—By WILLIAM KEITH, M.D., Surgeon to the Royal Infirmary, Aberdeen, &c.

[Janet Shirress, aged 30, was admitted into the Aberdeen Infirmary, complaining of constant pain in the region of the bladder, and constant distillation of urine from the vagina. She was delivered in 1831 by the forceps, and fourteen days afterwards the urine came away through an artificial opening in the vagina. This continued for seven or eight years, when she

plugged the opening with a pint bottle cork, and for a time this succeeded, and she enjoyed comparative comfort till the cork slipped into the bladder and was followed by the usual symptoms of stone. For a time the urine flowed again through the fistulous opening, but as the symptoms of stone became aggravated, she regained the power of retaining her water, and this so entirely before the close of the year, that she then passed the whole of her urine by the urethra. The irritation from the stone, however, became so intolerable, that it was resolved to crush it by the screw lithotrite. The fistulous opening was then large enough to admit a No. 16 catheter, having once been large enough to admit a pint bottle cork. When the stone and cork had been crushed, and the particles evacuated, the urine again passed freely through the fistulous opening, which, however, had become sufficiently small to allow a button-headed cautery, at a white heat, to be applied to it, so as to touch at once the edge all round. This was repeated in six days, again in sixteen days, and lastly in twenty-two days, after which she continued quite cured.]

Several points of interest attach to this case. *First*, It affords convincing evidence, from the effect produced on the fistula by the presence of her calculus, that were a foreign body of a smooth and unirritating character, of sufficient weight, introduced into the bladder in cases of vesico-vaginal fistula—the body would act as a bullet-valve, and not only keep the patient dry, but actually *favour* the contraction of the false opening. After seven years in the above case, the opening admitted a pint cork with so much ease that it slipped through, but after a foreign body was lodged in the bladder, nine months sufficed to reduce the opening to less than one-third of its previous size, and it could only have been during the latter six months of that period, that the cork could have acquired density and weight enough to operate as a valve plug. I would suggest a small thin bulb or bag of India rubber filled with mercury. Should incrustation happen in the progress of the cure, a squeeze with a screw lithotrite, or percussor, or a long œsophagus forceps, would throw it off, and at last, when the opening had contracted to such a size as to admit of its ready cure by the cautery, the thin bag could be easily burst or punctured, and then withdrawn by the urethra.

2dly. If asked why I deprive myself of the bullet-valve, while cauterising in the above case?—I reply, that the constant straining kept up by the rough stone, arising from the inflamed state of the mucous membrane of the bladder, kindled and kept up by its presence, obliged me to remove a source of irritation, sufficient to defeat, in more ways than one, any effort of nature at adhesion.

3dly. It is worthy of remark, that the application of the cautery inside the vagina occasions nothing deserving the name of pain; and this observation I have had repeatedly corroborated. The heat of the reflected rays may be felt; but I have never found patients say that they really felt pain.

4thly. It is advised by high authority, to allow of long intervals between each application of the cautery, that time may be afforded for the consequent contraction of parts: the advice is judicious; but it applies chiefly to cases where the orifice is large, and where there is much to accomplish in the way of closing in. My bullet-valve will, in future, aid the process much in such cases; but I beg to remark, that where we have fistulous opening of the size of a female catheter, for instance—and where, as in the preceding and succeeding cases, we are able at once to make the edges approximate, then I would earnestly advise the frequent use of the hot Iron, so as to keep up a raw edge, as well as a complete closure, thereby to ensure adhesion, and complete obliteration at once.

[Dr. Keith relates another very interesting case of vesico-vaginal fistula, in which the repeated application of the button-headed cautery, in a way similar to the above, was equally successful.]

Lond. and Ed. Med. Journ. of Med. Science, Jan., 1844, p. 13.

67.—TREATMENT OF ENTROPIUM AND TRICHIASIS.—By W. R. WILDE, M.R.I.A., Lecturer on Diseases of the Eye and Ear, in the School of Medicine, Park-street, Dublin, &c.

[In endeavouring to lay before our readers the principal points dwelt upon in this paper, or rather treatise, of Mr. Wilde, it will not be necessary for us to enter into an explanation of the different forms of this disease, nor of the variety of methods which have been, from time to time, recommended for its relief. Entropium, or inversion of the eyelids, may attack one or both palpebræ, and in each case the whole, or only a portion of the tarsal margin may be inverted, or the eyelashes alone may be inverted without the lid partaking of the displacement, or there may be a preternatural development of hairs, a double row of eyelashes internal to the normal row, without inversion of the cartilage; but it is to the inveterate form of entropium, especially of the upper lid, where the inversion takes place in a chronic form, and where there is no more inflammation of the eyeball than that produced by the irritation and unnatural condition of the cilia, that Mr. Wilde now draws our attention. He thinks that in almost every instance it is the result of *thickening and contraction of the conjunctiva lining the lid* caused *in limine* by chronic inflammation; and then, no doubt, the first turn or vicious bend having been given to the tarsal margin of the lid by the mucous membrane, which is there so intimately attached that we might say it was inserted into the cartilage, the muscular apparatus attached to the appendages of the eye comes into play. If the internal surface of the lid be examined in this case, the conjunctiva will often be found in a state of chronic inflammation, and frequently granular: in other cases the lid will exhibit a number of pale, shining, whitish-coloured lines scattered over the surface of the conjunctiva, but chiefly running along its lateral edge, and resembling the cicatrices and contractions after the cure of granulations.]

Mr. Ware, on the supposition that entropium arose from the "ciliary edges" being "not only inverted, but likewise contracted in length," advises the "enlarging the circumference of the ciliary edges," and says, "this may be done either by an incision at the outer angle, or by a complete division of the cartilage called tarsus in the middle." Mr. Tyrrell and Mr. Wharton Jones still partially adhere to this form of operation.

This method not succeeding, Sir P. Crampton devised the operation so well known and so constantly practised in this country, of dividing the tarsal cartilage at its internal and external extremity; the former incision beside the punctum, and the latter at the external commissure, in order to include the tarsal ligaments; when, if the inversion (I write of the upper lid) is not removed, these perpendicular incisions are united at their extremities by a longitudinal one, running parallel with the ciliary margin of the lid. The parts are held thus in an inverted condition by a suspensorium palpebrarum, for some days, in order *to restore to its natural position* the inverted cartilage. These are the principles of the operation; the subsequent dressing and after-treatment are known to most students in this city. In some cases, Sir Philip has been obliged, in addition, to glue down the lashes to the integuments, and to apply other mechanical means to bring back whatever deformity remained after the incisions. This method of cure was first propounded in 1804. In 1838, Mr. Guthrie writes: "Mr. Crampton's operation, then, as above described, appears to have succeeded perfectly in his hands; that it has been found insufficient in that of others is equally certain, arising, I believe, from the unequal effect produced by the suspensorium, and from its not acting in a sufficiently powerful manner, in the inveterate curvatures of the cartilage, on its bent extremities; and from attention not having been directed towards them, and the establishment of a countervailing force: all of which indications are necessary to be, and are, I believe, fulfilled in the worst cases, by performing the operation in the manner I shall point out.

Two perpendicular incisions, of from a quarter to half an inch in extent,

or of a sufficient length to render the eyelid quite free, are made through the lid, one close to the external angle, the other at a short distance from the punctum lachrymale; and these incisions are, he says, to be "continued, if necessary, by repeated touches with the scissors, until that part of the eyelid containing the tarsal cartilage is perfectly free, and is evidently not acted upon by the fibres of the orbicularis muscle, which lie upon it."

The portion of the lid included in these incisions, is now to be inverted, and retained against the brow, when he continues, "if any lateral attachment be observed acting upon and drawing or confining the lid, it is to be divided, which is, in fact, still elongating the incisions:" but as these incisions, extended as they are, will frequently fail in turning outwards the incurvated margin of the cartilage, as is acknowledged by Mr. Guthrie himself, he recommends the division of the cartilage along its whole length, from point to point of the lateral perpendicular incisions, thus leaving the lid connected with the surrounding parts merely by the external integuments, and the fibres of the orbicular muscles. Not deeming this sufficient, or the vicious turn of the lid still remaining, he advises "a fold of the skin to be cut away from that part of the eyelid included between the incisions," as close as possible to the ciliary margin of the lid; three or four ligatures are then passed through the divided edges of this latter incision, and made also to include the outer or lower edge of the lid itself, which is then retained upon the brow by means of these ligatures, fastened upon the forehead by pieces of adhesive plaster. "In order to prevent any attempt at union by granulation, or a filling up of the incision, the edges are to be slightly touched with *sulphas cupri;* a compress and retaining bandage is then applied, but removed the next day, when any adhesion that may have taken place at the angles of the incisions, is to be removed. On the third day the edges of the incisions are again to be touched with the sulphate of copper, the lid being still retained in its inverted position; when "in a few days more," continues the describer, "and especially by the continued elevation of the lid, the ligatures cut their way out, during which period the eyelid is gradually lowered, and by the time the incisions have filled up, it will have resumed its natural situation, and the cure will have been completed, with, however, two indentations in the ciliary margin of the tarsus, and, it may be, the continued inversion of two or three detached and irregular hairs." This operation, it will be seen, differs from that *originally* described and recommended by Sir Philip Cramptom, only in its magnitude and severity; in making the longitudinal incision of the conjunctiva, as recommended by Œtius and Sir Philip, extend through the cartilage, and in retaining the everted lid upon the brow, by means of ligatures, with greater security than could be achieved by the suspensorium palpebrarum. Mr. Guthrie very judiciously cautions the operator to avoid the division of the punctum, but observes, "that the operation, accomplished with all the care I have described, will still fail, if equal attention be not daily paid to the subsequent dressing, on which indeed more depends than on the operation itself; so much so, indeed, that I am disposed to consider inattention to it the most certain cause of failure.

Before I proceed to remark upon what appears to me the defects of this operation, let us turn to that recommended by Mr. Saunders, who in recommending the complete removal of the cilia, and in describing the sufferings induced by the harrassing disease of entropium or trichiasis, most justly observes:—"This picture which I have drawn, although melancholy, is not overcharged. Considering that I am addressing men acquainted with human misery, it may be deemed superfluous; but I am anxious that this truth should be impressed on the reader's mind, that the incision of the tarsus and roots of the cilia, however severe and formidable in apprehension, is instituted for the cure of a most excruciating disease, and that the occasion demanding it is imperious." With this rule, so admirably expressed, I fully concur.

Saunders performed his operation thus: having placed a piece of thin horn beneath the affected eyelid, in order to afford a resistance behind, as well as to guard the globe from injury, he made an incision posterior to and along the whole length of the cilia, and extending from the punctum to the external angle, when the entire tarsal margin containing the eyelashes was dissected off. No subsequent dressing was applied, or deemed necessary; and in a few days union took place between the integuments and conjunctiva.

This operation was subsequently modified by Professor Jager, of Vienna; and this I shall presently describe as that which it appears to me is best suited to the removal of entropium and trichiasis. When once a cartilage, particularly that of the eyelid, has become distorted, and has remained so any length of time, I have always found it a matter of exceeding difficulty to restore it by an artificial means to its natural position, even although the original exciting cause may be removed. During the summer of 1842, I was assisted by Mr. Hamilton and Mr. Grimshaw in two plastic operations, for the removal of entropium, the results of burn or ulceration. In both of those, although the transplanted lid formed a perfect and sufficient covering to the eye, yet for many weeks after, that portion of the cartilage, which had been most distorted, and was, if I may so say, puckered by the original cicatrix, returned, in part at least, to its original position, and protruded at the palpebral aperture; nor could this defect be remedied till an incision was made, in both instances, through the lid, from without inwards; and the edges of the divided portion of cartilage having been drawn through the external wound, and retained there by sutures, the adhesion thus produced remedied the defect. And it is this difficulty of turning back an old inveterate case of entropium which often renders the operation by incision inefficacious, in the more advanced stage, which might have been in all probability cured by it in the earlier period.

All practical oculists seem aware of the inveterate and almost incurable bend or turn which the tarsal cartilage takes, and of its continued liability to return, even long after the operation. This was long since clearly proved by Saunders, who, in remarking upon the operation of incision, says: "although by detaching it from the external and internal canthi, and by keeping it everted for a considerable time, until the incisions be healed, the ciliary margin may for a time be clear of the eye, yet this flattering appearance, increased by the temporary relief of the patient, together with the returning transparency of the cornea, the friction being taken off, is but of short duration. *The altered state of the tarsus, preventing its accomodation to the surface of the globe, is not corrected;* and so great is the tendency of this diseased substance to incurvate, that the inversion of the eyelid is very soon again confirmed."

I offer no excuse for these lengthened quotations from Mr. Saunders' invaluable work; they are so just, so practical, and, it appears to me, so thoroughly based on long experience and extensive observation of this disease, and his opinions are so well expressed, that I feel they must have more weight than any thing I could offer on the subject. I was led to adopt views similar to these, from being applied to at my dispensary by numbers of persons who had been already operated on at the various periods of their lives, by different methods, and by different individuals, for the cure of inversion and distortion of the eyelashes, in which, although temporary relief had been obtained by each surgical effort, still the unnatural condition of the cartilage and eyelashes returned in whole or in part, and the distortion of the margin of the lid, from the effect of the various operations, was not only disfiguring, but positively destructive to the mechanical adaptation of the appendages of the eye.

"The operation proposed by Dr. Crampton," says Saunders, is highly successful, and, as I am inclined to think, unexceptionable in the earlier periods of the disease, before an unconquerable inclination of the tarsus towards the globe is produced; but in this ultimate and inveterate state of the

disease, in which the contraction is often consequent on the cicatrization of the tarsus itself, it is altogether inexpedient." In commenting (I must say rather severely) upon this opinion, with which I perfectly coincide, Mr. Guthrie writes as follows: "But as the alterations I have made in Mr. Crampton's method render it, in my opinion, equal to the cure of every stage of the disease, and as so many more cases of it have come under my observation, and have been cured by the operation I recommend, since the publication of the first edition of this work, I feel myself bound to add, that any surgeon who shall mutilate his patient, without having previously tried it, and failed, will be liable to the severest reprehension." That, however, it will fail, even when performed according to the plan, and to the full extent, recommended by Mr. Guthrie, I have seen numerous examples.

The objections which, it appears to me, the operation by incision is liable to, may be summed up as follows:—It does not always remedy the inversion, and although it affords temporary relief in many instances, still the disease, as acknowledged upon all hands, is liable to return, owing either to the vicious and determinate inclination of the cartilage, or to the original cause not having been removed. Judicious and ingenious as the operation of Sir Philip Crampton is in the first stage of pure entropium, without any irregularity of the lashes, it is totally inefficacious where any extent of trichiasis is present; and in a vast number of cases that I have seen after the operation, trichiasis did exist, and therefore the intention of the inventor has neither been fully understood nor acted upon. Sir Philip advises the insulation and eversion of that portion of the lid in which the inverted or irregular hairs are situated at irregular intervals, all along the ciliary margin, and each hair would require a separate operation for itself; moreover, the trichiasis, either singly or in connexion with entropium, does not depend upon an unnatural position of the cartilage, but upon an irregular or vicious position of the hair itself, and therefore, to remove the hair from the surface of the cornea by means of any operation upon the cartilage, must be to place it (the cartilage) in an irregular and unnatural situation—all which objections are obviated in the operation by excision or extirpation.

The eyelids appear to be held in their natural position by the tendon of the orbicularis palpebrarum muscle, and also its fleshy fibres spreading over its surface, by the external integument, and by the conjunctival lining, especially those portions of it denominated external and internal ligaments. And upon the correct and accurate position of the eyelids depends the integrity and mechanical power of those capillary, and perhaps erectile-mouthed siphon tubes, the puncta lachrymalium. If, then, the margin of the palpebral fissure be divided, the sphincter power of the lids is lost; the lower lid, from want of the support afforded it by the action of the orbicularis muscle, and its attachment to the upper lid, after some time, droops and causes entropium; the puncta, no longer held in their natural position, do not take up the secretion thrown into the lacus lachrymalis, and the tears, instead of being urged forward by the action of the lids into that receptacle, distil over the eye through the fissures in the lid, and irritating the cheek, increase the eversion of the inferior palpebra. According to Mr. Guthrie's method, the portion of cartilage containing the inversion is completely detached; and I have seen cases in which, in three months after, it lay flat upon the lid, with the eyelashes hanging downwards and forwards; and so much difficulty was experienced in raising the lid, that the eye appeared to be affected with ptosis.

The operation which I have been in the habit of performing for some time, the facility and good effects of which have been witnessed by numbers of my professional brethren, I will now describe; merely premising, that it differs from that recommended by Professor Jager only in one of its stages, and in the application of ligatures, instead of allowing union by the second intention.

The surgeon should be provided, in the first instance, with a variety of horn or ivory spatulas, such as those originally described by Saunders, and

figured in most works upon ophthalmic surgery. They should be made of different breadths and curvatures, to fit the varieties of palpebral apertures, and will be found much more convenient without than with the wire retractor usually attached to them, and they should be at least four inches in length.

The patient being settled in a high-backed chair, or with the head resting against the breast of an assistant, the spatula is to be inserted beneath the upper lid, for at least half an inch of its length, and held firmly in that position by the left hand of the operator, which rests against the cheek of the patient; the assistant then, with the fore-finger of his right hand, draws upwards and presses against the superciliary arch the integument of the lid, so as to put it completely on the stretch, and likewise evert, as far as possible, the lashes which the operator holds down upon the spatula with the thumb nail of the left hand. Before proceeding farther, the surgeon should make himself thoroughly acquainted with the exact position of the punctum, in order to keep clear of it in the subsequent incision. It may also be remarked, that the more the parts are put upon the stretch, the greater will be the facility experienced in the subsequent stages of the operation, and the more perfect will be its results; therefore the spatula employed should be accurately fitted to the extent of aperture in each individual case. With a small fine scalpel, more curved than usual towards its point, and having a small indenture in its back, towards the extremity, an incision is to be made through the external integument, parallel with, and about the eighth of an inch behind the ciliary margin of the lid; commencing in the right eye at the external commissure and ending at the punctum, and vice versa in the left. In this incision, which may be varied in its extent from the edge of the lid, according to the quantity of external integument which it may be desirable to remove, the fibres of the orbicularis muscle must be in part divided along their longitudinal course, for the cartilage should be reached at one cut; and the extremities of the incision should likewise curve abruptly downwards, in order to leave no nodulated or rugged margin to the lid in the subsequent process of healing.

Considerable hæmorrhage always follows this incision, the parts being naturally exceedingly vascular, and rendered more so by their diseased condition. Professor Jager and most operators now complete the excision of the tarsus by slanting the blade of the knife downwards and inwards, and so *slicing off*, by repeated slight incisions, that portion of the lid in which the cilia are placed, and cutting on the spatula, which forms a firm resistance behind as well as a protection to the globe itself. A much simpler and more efficacious plan will be found in throwing aside the spatula, and laying hold of the external angle of the margin of the lid with a fine-toothed forceps. Then, standing, not in front but on one side of the patient, so that the parts may be seen in profile, with the knife held in that position that its blade crosses obliquely the margin of the lid, from the external tegumentary incision to a point a little internal to the centre of that flat surface which the lids present to each other when closed, it is made to traverse with its back kept towards the operator, the whole extent of the part to be removed, while the forceps retained in the left hand draws forwards the slip containing the eyelashes, till the incision is complete; the assistant still preserving his original position. By this means there is nothing whatever removed from the length of the cartilage, and the cilia not being inserted in, but *lying on* the cartilage, are completely removed, and by thus taking off the slip in profile, we see exactly how much we are removing, and can also guard with greater accuracy the punctum.

The whole of what I have now described need not occupy above a minute, and the pain, though it is certainly very severe, is in no wise equal to that experienced in the operation by incision, at least if the patient's expression of feeling is to be taken as a test of such. Upon examining the inner portion of the surface removed it will be found studded over with the black bulbous roots of the eyelashes, which are generally all removed by the in-

cision; the excised surface of the lid, however, must be accurately examined to see that no root remains, and until the surgeon is assured of this he has not completed his operation. The bleeding, is as I have said, very profuse, and in some cases—those which may be denominated vascular persons—two or three small arteries, branches of the superior palpebral, pour out *per saltum*. The surgeon must, however, wait patiently till all this ceases, and the assistant should continue to keep the lip elevated, as by closure or turning in upon the eye the hæmorrhage will be decidedly increased; a little cold water and the action of the air will, however, soon arrest the bleeding, at least to an extent sufficient to allow of such an examination as will enable the operator to observe the divided root of any remaining hair, which is fortunately always of a dark colour, no matter what may be the complexion of the patient. Such roots should be laid hold of with a fine-toothed or a ciliary forceps, and removed, along with some of the surrounding cellular substance, by the scalpel or a curved scissors, for if these points are only plucked out there is a possiblity of the hairs growing again.

Many operators are now content with the application of water dressing, and allowing the parts to contract and adhere as best they can: such was the mode of treatment adopted by Mr. Saunders, who, however, adds: "in all the patients on whom I have operated, a fungus of considerable size has sprouted from the centre of the section." This induced me to employ two or three points of suture passed by means of a fine sewing needle, first through the thin margin of the cartilage, and then including the external integument which is thus brought in accurate apposition with the conjunctival lining of the lid. By inserting the central one first, and, through its means, holding the lid slightly everted, the two others can be passed with great facility; they are then cut off close, and removed about the end of the third day, when the wound is generally healed, and no farther trouble is experienced, the cornea clearing, and the irritability, epiphora, winking, and chronic inflammation of the parts gradually subsiding. I seldom see the patient again till it is time to remove the ligatures on the third day, but recommend the application of cold water in the interim. The hæmorrhage is generally very salutary, and in thirty-six cases on which I have operated no inflammation worth remarking upon occurred.

A greater change, not only in the eyes themselves, but in the whole appearance and expression of the countenance, cannot possibly be imagined, than that produced in a very few days by the operation that I have now described; the offending bodies being removed, the lids open wide, the head is held erect, and the patient has in truth "Smoothed his wrinkled front;" for the brow, before so rugous and contracted, has now become expanded; the frown has given way to a smile, and the whole bearing of the individual is that of ease and cheerfulness, and all this has been purchased with the loss of the diseased eyelashes! Yet this has been denounced as a "most cruel proceeding," a "dreadful operation," and a "mutilation," for which the surgeon who has not previously resorted to the method of Mr. Guthrie is deserving of the "severest reprehension!"

In conclusion, the advantages of extirpation, no matter how performed, over all other operations for the removal of inveterate entropium, may be thus enumerated:—the complete removal of the cause of irritation, there being no danger of return, there being no deformity produced, no dislocation of the puncta, no subsequent stillicidium lachrymarum, no falling or eversion of the lower lid, the integrity of the cartilage being preserved, and the Mibomian glands, which Saunders must have cut across, being, for the most part, left entire.

In three instances I completely removed the cilia in both lids of the same eye, and with the most beneficial effect. The lower, however, except when affected with severe trichiasis, can be much more frequently cured by the removal of a portion of integument, or the application of an acid than the upper one.

When an elliptical portion of integument is removed, I have only to re-

mark that it is generally too small; and as far as my experience of this operation extends, unless some fibres of the subjacent muscle are also removed with it, and the ligatures made to include the muscle and the integument, by which means an adhesion is produced that afterwards acts as a counteracting force against the internal contraction of the conjunctiva, little good will result. Furthermore, the upper edge of this elliptical incision should be made as close as it possibly can with safety, to the ciliary margin of the lid; it is in general made at too great a distance from it.

A single lash, or one or two lashes will sometimes turn in upon the eye and produce the greatest annoyance; the patient gets tired of plucking them out, and applies for surgical relief. In such cases placing the horn spatula within the lid, I make an incision with a small knife down to the root of the inverted lash, and, having waited till the hæmorrhage has ceased, I apply a point of nitrate of silver by means of a small *port-caustic* (such as I have already described among the ear instruments) down to the bottom of the wound, and *then* remove the lash; it seldom fails, but frequently it destroys two or three of the neighbouring cilia. Partial distichiasis also, or more extended trichiasis, may likewise be successfully treated by the same means. In the operation of extirpation for entropium, a single lash, or sometimes two or three, may escape the notice of the operator, and will reappear in a few days after the operation, though not always in an inverted position. Such cases may be treated by incision and the nitrate of silver, or what is simpler and less painful, laying hold of the surrounding skin and cutting out a V shaped portion with the root of the lash.

Dublin Jour. of Med. Science, March, 1844, *p.* 111–133.

68.—CONICAL CORNEA.—By James H. Pickford, M.D., &c.

[Dr. Pickford has written a most elaborate and learned paper on this interesting subject, which was read before the Association of the King and Queen's College of Physicians, Dublin. It is a disease which has baffled the skill of the most experienced ophthalmologists. Dr. Pickford first refers to the generally received opinions of the nature of the malady, and to the common mode of treatment, and then explains his own views of the same.]

In the disease under consideration the normal convexity of the cornea is lost; a transparent conical structure, apparently differing in no particular from the natural texture of the cornea, unpreceded and unattended by pain or inflammation, supplies its place; the cornea is prolonged forwards, and presents to the observer a peculiar dazzling, sparkling point of brilliancy, a dew-drop, or gem-like radiance, as though a piece of solid crystal were embedded in its centre. This appearance is occasioned by the excessive refraction, by the corneal cone, of such rays of light as pass through it, together with the reflexion, in due relation to the incident angle, of a certain portion of all rays impinging upon its surface. In extreme cases it is not unusual to find the apex of the cone opaque. This may arise from inflammatory action, occasioned by the friction of the lids upon the corneal projection, or by other causes, to which an eye of this peculiar form must be subjected. Should this inflammatory condition be excessive, ulceration and staphyloma may be the consequence.

Patients, when first attacked, become myopic, but as the disease increases, are unable to distinguish small objects, even in the direction of the axis of the eye, unless held within an inch or so of the cornea. All direct and useful vision is now, nearly, if not totally, intercepted, though, on the temporal side of the eye, even minute objects are easily discerned.

Various remedies, both general and local, have been prescribed for its cure or relief; all have failed, even in arresting its progress. Some practitioners recommend the application, once a-week, of a leech or two, to the lower eyelid or temple. Others advise bleeding, frequent cupping, issues to the temples, perpetual blisters, and astringent collyria; some one thing,

some another. Some writers, believing it to depend upon an excess of aqueous humour, the consequence of a dropsical tendency, have administered calomel, &c., internally, with a view to excite the action of the absorbent system, and thus remove the increased quantity of aqueous humour from the anterior chamber, but without the least success. Others have evacuated this fluid, unmindful of its exceedingly rapid renewal: for so soon as the puncture is sufficiently healed to bear its pressure, so soon will the chambers be filled with the fluid, as before the operation. No permanent relief of any kind, neither benefit to vision, nor mitigation of the disease, can therefore arise from so inconsiderate a mode of treatment.

There are others who recommend constant and well-directed pressure on the apex of the corneal cone. The futility, not to say mischief, of this unscientific plan, is self-apparent. It is replete with objections, exclusive of the utter hopelessness of its effecting a cure. Its advocates expect to occasion, by these means, absorption of the apex of the cone, and, ultimately, of the whole of the transformed cornea. If Jager's account be proved to be correct, and if the apex of the cone be, as he states, not thicker than "writing paper," what must be the state of the patient's eye after it had been subjected to pressure sufficiently long to answer the proposed end? Would not the remedy here be infinitely worse than the disease? Some writers, satisfied, after the most ample experience, of the insufficiency of remedies, content themselves with doing nothing.

Sir Wm. Adams broke up the crystalline lens, in order as he states, that the rays of light might fall upon the retina, and not be brought, by the increased refractive power of the cornea and lens, to a point far short of the sentient apparatus of the organ of vision.

Sir. John F. W. Herschel, speaking of "short sighted persons," says, "they have their eyes too convex, and this defect is remediable by the use of proper lenses;" and he then refers to the operation under consideration in the following terms:—"There are cases, however, though rare, in which the cornea becomes so very prominent as to render it impossible to apply conveniently a lens sufficiently concave to counteract its action. Such cases would be accompanied with irremediable blindness, but for that happy boldness justifiable only by the certainty of our knowledge of the true nature and laws of vision, which in such a case, has suggested the opening of the eye and removal of the cyrstalline lens, though in a perfectly sound state." Sir John proposes to remedy the defective vision arising from malconformations of the cornea, "by adapting a lens to the eye, of nearly the same refractive powe:, and having its surface next the eye an exact *intaglio* fac-simile of the irregular cornea." "Should," says he, "any very bad cases of irregular cornea be found, it is worthy of consideration, whether at least a temporary distinct vision could not be procured, by applying in contact with the surface of the eye some transparent animal jelly contained in a spherical capsule of glass; or, whether an actual mould of the cornea might not be taken, and impressed on some transparent medium. The operation would of course be delicate, but certainly less so than that of cutting open a living eye, and taking out its contents.

Entertaining the highest possible respect for the opinion of so eminent an authority as Sir John Herschel, and for the talent and labours of Sir William Adams, I must be permitted to question the "happiness" of that "boldness" which has suggested the removal of the crystalline lens as a remedy for the depraved vision of those afflicted with the disease under consideration. The circumstance, alone, of the operation having fallen into disuse is, in itself, sufficiently condemnatory of its supposed utility. Could but the rays of light, with accustomed regularity of convergence, reach the lens, all would be well; a deep double concave glass, by occasioning a prior divergence, would remedy the defect of vision; but, could they do this, one of the very peculiarities of the disease itself would vanish, and cease to exist; for, were the refractive powers of the cornea merely "increased," and not in excess, all rays entering it would pass aonwrds to the lens and retina,

without producing that peculiar sparkling luminous appearance, that diamond-like radiance before mentioned; one of the essential characteristics of the disease. The removal of the lens from the axis of vision cannot, I contend, produce any effect upon the corneal cone; for this it is which refracts unduly, and in excess, the rays of light falling upon the upper portion of its surface, and offers a permanent barrier to their reaching the lens with their ordinary convergence and regularity.

Until, therefore, the external form of the cornea be changed—until this conical projection—be it a solid cone, or be it, on the contrary, a hollow cone with vertex of extreme tenuity, increasing in substance towards the base—be got rid of, all, or nearly all, the pencils of light incident to the upper portion of its surface must be unduly refracted, producing excessive and irregular convergence, and consequent confusion in the direction of the rays of light, for which nothing can compensate, which nothing can rectify, neither the abstraction of the natural lens nor the superaddition of an artificial one. Hence, I repeat, the removal of the lens is uncalled for, injudicious, and indefensible.

The late Mr. Tyrrell hit upon a very ingenious, though very inefficient expedient for remedying the defective vision. "It consists in altering the position of the pupil, and removing it from beneath the centre of the cornea, or that part which has its figure most changed, to near the margin, where the least change has occurred; the error in refraction is consequently much lessened, and the vision becomes more perfect, and the focus lengthened." This he effected by puncturing the outer and lower part of the cornea with a broad needle, and then dragging into the wound and strangulating it there, the pupillary margin and so much of the temporal portion of the iris "as is requisite to cause the pupillary opening of the iris to change its position, from the centre to the outer and lower part of the cornea." (This plan, however, was, we believe, first suggested by Mr. Middlemore, and published in his work in 1834.)

By this "simple plan," he says he has "benefitted the vision and in two cases very considerably." It is evident, however, that the beneficial effects of the operation upon vision must have been of an exceedingly limited and one-sided character.

[Dr. Pickford proceeds to detail the mode of treatment which he has found most successful. In the first case recorded, the treatment consisted principally of iodine internally and externally, with an emetic of twenty-five grains of sulphate of zinc early in the morning, twice a week. The emetics were afterwards repeated every morning, and in six months she was much relieved, but not entirely cured. In consequence of the suggestion of Mr. Guthrie in the London Medical and Surgical Journal, vol. i., p. 361, and in his lectures in 1832, Dr. Pickford determined to make use of emetics and purgatives only, without iodine, combining the aperient with the emetic as prescribed by him. In his next case, therefore, he prescribed as follows:

Zinci sulph. ℈i. magnesiæ sulph. ℥iv. primo mane quotidie sumend. This emetico-purgative plan was continued for upwards of twelve months, when she was discharged perfectly cured. The disease returned, however, in about eighteen months, and was cured a second time by the same means.

Another case of a similar kind is added, in which one grain of tartarized antimony with half an ounce of epsom salts were given every morning for a considerable period with almost equal success. Dr. Pickford, however, prefers the sulphate of zinc. He ends his paper by an attempt to explain the rationale of this treatment, and the probable pathology of the disease—views, which, in the words of Mr. Middlemore, "appear calculated to effect a greater advance towards its correct and successful treatment than has been hitherto accomplished by the united labour and research of all preceding writers." We have only space for the following remarks of Dr. Pickford, which, however, seem to embrace the whole of his views of the pathology of the affection.]

Diseased action having been once set up, whether in the absorbent or

nutrient vessels matters not, either removal of, or additions to parts existing must ensue. Hence, if the absorbents be over active, thinning of the cornea would result, while nature, ever anxious to repair an evil, would be busied in depositing new matter, *externally*, to counteract the ill effects of the increased action of the absorbents going on *within*. This will explain the *growth* of the disease, and also the irregularities of the external surface of the corneal cone, described by Sir David Brewster; the central and internal depression, with circumferential thickening, found by Jager; the hollow cone with vertex of extreme tenuity, gradually increasing in substance towards the base; and will, at the same time, account for "the laminæ being less moveable upon each other," as described by Mr. Middlemore, and, also, for the cornea not "giving way," upon the the principle of its elongated form being *the product of growth*, and not, as Mr. Travers states, "the consequence of its having lost its natural resistance to the pressure of the contents of the globe."

Hence, I feel I am justified in stating that I believe conical cornea, *ceratoconus*, to depend upon faulty action, induced by debility of the nerves of the cornea, of its absorbent vessels, calling for an increased deposit from the nutrient capillaries, to repair the mischief arising from such faulty action. The disease is analogous to hypertrophy, with dilatation of the ventricles of the heart, and to aneurism. I would merely glance at the possible similarity of arrangement which the vessels and nerves of the cornea may bear to those of the membrana pupillaris. Converging, as they must, more or less, like rays to a centre, it would result, that the central part of the cornea must be the point where all meet. If then, by impaired nervous energy, faulty action be communicated to the nutrient and absorbent vessels, we should have undue absorption and deposit at this identical point.

It may be replied that, admitting the reasoning to be just, I am here making general what ought to be considered the exception, and that, with this notion, every one ought to have conical cornea. Not so; the exception is the faulty action of the vessels, the consequence of some particular constitutional tendency. I merely speak of their probable arrangements, terminations, and commencements. In a state of diseased action with such an arrangement, I think it more than probable that such a result might be foreseen and calculated upon. I shall now, therefore, submit the probability, in the disease under consideration, of gastric or intestinal disturbance or irritation, inducing, through the medium of the par vagum, sympathetic and ciliary nerve, faulty action of the absorbent and nutrient vessels of the cornea, the combined effect of which would be conical cornea. Had the time permitted, it was my intention to have discussed more fully the rationale of the treatment before detailed. I must now content myself with remarking that whatever would restore the healthy functions of the nerves, or increase the energy of the nervous system so as to communicate to the capillaries of the part a tone or power to resume their healthy action, would give a check to the disease, and that a continuance of healthy action would allow time for the cornea to reacquire its normal form and refractive powers.

We have not a sufficient number of recorded experiments to determine directly the influence of the nerves on the action of the capillaries. I cannot, however, on this point, do better than quote the words of my friend, Dr. Billing. "Let us see," says he, "how far we can go in proving that the *capillaries depend* upon *nervous influence* for their contractile *action*. Blushing is, perhaps, the most unequivocal proof that an alteration in the nerves is the cause of sudden dilatation of the capillaries. It is not the action of the heart alone which causes the partial flush: for, first, the heart often acts stronger without causing blushing; and next, the blush is partial; whereas, when the mere action of the heart causes increased redness of the skin, as from exercise, it is not partial, as it is in blushing from mental emotion. And this, which is sudden weakness of the capillaries, has been commonly attributed to the 'increased arterial action,' and 'determi-

nation to the face.' I attribute this giving way of the capillaries to derivation of the nervous influence, which, being directed to, or expended in, the brain, more freely by mental emotion, robs, for the moment, the capillaries of the face of their energy."

The same writer has shown that "emetics and purgatives possess a sedative and constringent power," and that "antimony exerts a locally tonic or astringent effect on the capillaries of inflamed congested parts, as well as on those of all the secreting structures." It is worthy of consideration how far small and constantly-repeated doses of antimony, or of any other metal, such as mercury, zinc, or copper, may produce the same beneficial effect upon the disease as emetics with purgatives. Formerly, fever was treated by the daily exhibition of emetics. We now obtain equally good results from small and oft-repeated doses of antimony. The disease in question consists, essentially, in debility and elongation of the capillaries of the part, with morbid deposits. The cure, in their retraction by means of tonics.

It would occupy too much of our time to enter as fully as the interesting nature of the subject demands, into the different forms of sympathy, and their application in the treatment of disease. On these points the ably written chapter on "Sympathies," in Baly's translation of "*Muller's Physiology*," will amply repay an attentive perusal. In conclusion, I may repeat, that I believe conical cornea to depend upon some disturbance in the functions of the great sympathetic, spinal nerves, and par vagum; producing, through the medium of the lenticular ganglion and fifth pair of nerves, faulty action of the nutrient capillaries, and absorbent vessels of the cornea itself; that emetics and purgatives, by the powerful influence they induce upon the gastric, associate, and consensual nerves, restore the healthy functions of the weakened nutrient and absorbent vessels, the result of which is a slow but progressive retraction of the diseased corneal growth, and a consequent restoration of vision.

Dublin Jour. of Med. Science, Jan., 1844, p. 357-381.

69.—EXCISION OF THE SUPERFICIAL LAYERS OF AN OPAQUE CORNEA.—By ROBERT HAMILTON, M.D, F.R.S.E., Surgeon to the Edinburgh Eye Infirmary, &c.

[We think that we are more indebted to Dr. Robert Hamilton than to any other British surgeon, for constantly bringing before us the most improved methods of treating diseases of the eye among the German surgeons. We have already recorded some of his very valuable communications, and the following is not less interesting than his former ones:—]

Dr. Gulz, lately *chef de clinique*, and assistant to Professor Van Rosas at the great Ophthalmic Hospital in Vienna, has lately succeeded in restoring vision to one of those unfortunate individuals who had become blind from extensive opacity of the cornea, by excising the opaque anterior portion, leaving only the posterior normal part, which healed without losing its transparency, and left permanently a clear aperture available for all the purposes of useful vision. This success to an almost unlooked-for extent, together with very decided relief in some other cases, has led him to anticipate a like result in similar instances; and has induced him to support the thesis, that there are cases in which excision of the opaque cornea will be effectual in restoring permanent vision to the blind. This important proposition in ophthalmology, together with a brief narration of the cases just referred to, will form the subject matter of the following memoir.

It is of primary importance that the *precise nature of the cases to which the proposed method is applicable* be clearly understood; as otherwise, mistakes and injuries will be the necessary consequence. In these cases, then, as in the somewhat allied class belonging to the head of artificial pupil, it is absolutely necessary, that the *sentient portions of the eye be in their normal condition*, and that the defect of vision arise solely from some obstruction of a

mechanical nature interfering with the admission of the rays of light. The morbid conditions inducing such obstacles need not be enumerated; but in all, though the obstacle to distinct vision be complete, yet the perception of light must never be destroyed; and the practical surgeon will seldom or never have any difficulty in discovering that the nervous parts of the organ still preserve their integrity.

Again, and to be somewhat more particular, there must be no *anterior synechia*, nor any *closure of the pupil*. No words are necessary to enforce this proposition. Were the cornea rendered ever so clear, both the abnormal states here specified would form insuperable obstacles to vision; and we are not yet in a position to advise that the operation on the cornea should be attempted in a hope that a second one for artificial pupil might restore the sight. The existence of *staphyloma*, we may add, must always diminish the prospect of success. With the majority of oculists, we hold that in staphyloma the iris is usually involved, adhering to the remaining cornea, or to the cicatrix-tissue which supplies its place. Notwithstanding this unfavourable state of matters, it is interesting to know, that some such cases have been noticed in which very tolerable vision has been retained. Two instances of this kind will be brought under review in the sequel, so that even in these cases all hope must not be abandoned;—hence then, the appropriate cases for the method about to be detailed are reduced to those affections of the cornea which are classed as *simple opacities*. And even here it is necessary to discriminate. The obscurity of the cornea arising from the thickening of its conjunctival covering, constitutes the proper pannus of oculists, and is to be treated upon the general principles alluded to in the paper previously read to the society. The slighter varieties of opacity, whether of general cloudiness or of local film, and even the more obstinate forms of albugo and leucoma, must be treated upon other principles; and hence the fitting cases for this operation come to be those in which there is a very considerable obscuration of the cornea proper, covering the whole surface of the membrane but not extending throughout its entire thickness, without synechia, and with the integrity of the sentient apparatus.

And such cases are unfortunately too common. They are found in strumous subjects as the result of that obstinate disease known as the vascular albugo of oculists; also, of Egyptian and other virulent purulent ophthalmiæ; likewise in cases of severe corneitis, with effusion of blood and lymph between the layers, and, not to dilate more, in certain of those cases of violent inflammation, induced by the introduction of lime and such matters, which, by their chemical action, almost immediately destroy the superficial layers of the membrane, and penetrate to a certain but limited extent. The result of accidents and diseases such as these, is to induce a state of the cornea, in which useful vision is lost, and where all attempts at relief are usually abandoned in despair.

Certainly it is not a little vexatious to the surgeon to know, that in all these cases the more noble and important parts of the organ are still entire, and that a mere chink or aperture is all that is desiderated for satisfactory vision. It is this condition of the parts which has led the first oculists of their time so much to tax their ingenuity and skill in endevouring to overcome the apparently trifling obstacle—that led the University of Munich to offer an honorary prize to the individual who would indicate how the difficulty might be overcome—that has led such men as the elder Autenrieth, Beer, Ammon, Henle, and Guthrie, in cases of opaque cornea, and of staphyloma, themselves to undertake, and to recommend to others, the operation of *sclerectomia*, the operation of simply removing a minute portion of the sclerotica and choroid, near the corneal margin, so hoping for a vicarious or artificial pupil—or the modification proposed by the celebrated Wutzer of Bonn, of substituting, in the same spot, after the Talicotian method, a portion of the transparent cornea instead of the natural and opaque membranes—that has moreover led Feburc, and more recently Dieffenbach, to

advise, and, it is stated, successfully to execute the complete excision of the central opacity of the cornea, and to unite the lips of the wound thus made, by sutures—and finally, that has led Reisinger, and more lately Dr. Biggar, of Dublin, to propose, and in the lower animals, to execute with success the removal of the opaque cornea, substituting a transparent one in its place, and so restoring useful vision. All these anxious and persevering efforts of ingenuity and skill must, we fear, be conceded to have failed; and hence the proposal before us will readily be received with a larger share of favour and consideration.

The *history* of this proposal, we believe, is as follows:—The ophthalmologists of Vienna were not, of course, ignorant of the state of the science regarding the class of cases on which we have been dwelling, and particularly respecting the forms of simple opaque cornea, and the methods which have been proposed for remedying the distressing complaint. Meditating upon the peculiar texture and organization of the cornea, and upon that variety of the disease we have indicated above, it had long been the opinion of Professor Von Rosas, that the diseased part of the cornea might be sliced away, so leaving a clear portion beneath; and, moreover, that this operation might be so managed that the resulting increased action would not produce a new film, but leave the parts in a translucent or transparent state.

This speculation was converted into a kind of certainty, by there appearing at the Clinical School, in the year 1833, a man in whom the left eye was atrophied, and whose right exhibited a complete obscuration of the cornea, with the exception of a small portion in its centre about the size of the natural pupil, which was clear, and which served all the useful purposes of vision. Here the unaided powers of the constitution had wrought an excellent cure; and art was as it were challenged to accomplish that which nature had so well effected.

Accordingly in the Ophthalmic Clinic of the session 1833-4, Professor Rosas undertook the performance of this operation in two cases. In the former, he may have been said to have removed by far the greater number of the layers of the cornea, and the trial was not unsatisfactory, inasmuch as the patient was quite cured of his wound, and left the hospital with very decided improvement of sight. The subsequent history of this case however, was unfortunate. It was ultimately ascertained that after leaving Vienna, fresh inflammation attacked the eye, and the advantage which had been gained was completely lost. In the latter, the external and opaque layers of the cornea only were removed; the remaing part was found in its normal state, the healing process advanced to its close without any opacity being superinduced, and a cure was effected by means of a clear membrane. Six months afterwards it was ascertained from good medical authority, that the patient continued to see as well then as he did upon leaving the hospital. In both these cases, the greatest care was taken after the operation to regulate the re-action which necessarily followed, by the antiphlogistic regimen, and by cooling local remedies.

In subsequent years the operation was occasionally performed with mingled, rather than with marked success; but with a sufficient measure of it to encourage still farther trials. The next event in the history of the proposal to which we have to direct attention is a case which presented itself in the Ophthalmic Clinic of Vienna in the session 1841-2, and which fell under the immediate care of Dr. Gulz. In this instance, there was a cure effected in both eyes; in the one, which was in a staphylomatous state, by nature; in the other, by the hand of the surgeon; and so far as our knowledge extends, this is the most detailed and remarkable instance of the success of the method which has hitherto occurred.

Salomon Maschkowits, Oct. 28, from Hungary, a tailor by trade, of leucophlegmatic temperament, and having about him the traces of struma, two years previously was attacked, in his native country, with purulent ophthalmia, after being in frequent and close communication with a fellow workman labouring under the disease. For the cure of this complaint he resor-

ed to an hospital, from which, after a treatment of eighteen weeks, he was dismissed, with no greater power of vision than that of distinguishing between light and darkness. After dismissal, as might be expected, there was no improvement, but the reverse. The left eye gradually augmented in size; the corneal portion at the same time projected more and more, and the blindness continued as bad as ever. These symptoms advanced for about a month, when, one morning upon awaking, the patient, to his great joy, observed that he could perceive objects with his left eye, though it was more than ordinarily tender and painful. From all that could be learned, and from a careful examination, it appeared that the ophthalmia had produced spherical staphyloma in this eye, which ran its usual course, getting larger and larger till at length it had burst, after which the cicatrization had finally stopped at that stage in which there was the formation of a transparent membrane, a termination not more fortunate than rare. At all events, upon his presenting himself at the Vienna Clinic, this eye was found with the remains of a genuine staphyloma, the most projecting portion of which was smooth, as if it had been shorn with a plane, also transparent and shining, to the extent of half a line; so permitting the passage of light to such an amount that the patient could readily distinguish larger objects and colours; and clearly demonstrating that there are circumstances in which, even after the rupture of a protruded cornea, with adhesion of the iris, a clear and useful aperture might still be left.

The disease in the right eye had run a different course. The external layer of the cornea had been more or less inflamed, ulcerated, and destroyed, and the healing powers of nature had operated by substituting in their place a substance, whitish and opaque, over the whole surface of the cornea. On the patient's presenting himself at the hospital, granulations were found in the palpebral conjunctivæ of both eyelids, and the right cornea was somewhat flattened, in all its extent obscured by a cicatrix, the result of the previous ulceration, while at the same time the organ readily discriminated between light and darkness. It was thought, or at all events hoped, that the obscuration and ulceration of texture in this instance did not extend throughout the whole depth of the membrane: and the case was deemed a fair one for attempting what could be accomplished by the slicing off of the opaque portion of the cornea and leaving the transparent part as little injured as possible.

As preliminary to anything in the shape of operation, the removal of the granular state of the palpebral conjunctivæ, with the consequent inflammation, was first essayed, and accomplished without difficulty.

The operation was performed by Dr. Gulz, under the direction of M. Von Rosas, in the following manner, the instruments employed being the cataract knife, with a double cutting edge, of Rosas, and the pyramidal knife of Beer, together with a small toothed forceps, and a delicate pair of scissors: The eyelids of the patient were conveniently fixed by the fingers of an assistant, and the cutting-knife consisted in the continuous and repeated introduction of the knife, following the motion of the eyeball through the external layers, so gradually approximating the internal parts of the cornea. The manœuvre required to be repeatedly and adroitly performed, until the transparent part of the cornea was at length reached; it was then, by the help of the different instruments, bared to the extent of a line and a half in diameter, the innermost layers of the cornea being fortunately uninjured throughout, and consequently the anterior chamber of the aqueous humour remaining unopened. The operation occupied about a quarter of an hour in its performance, and after its completion, the vision was improved to such an extent, that the patient could perceive different shades of colours, and the smallest objects, such as the hands of a watch, with facility.

The subsequent treatment consisted in the application of plasters over the eyelids, so preventing their motion: these again were covered with cold and ice-water, to moderate everything like excess of action; the patient was placed in a dark room, and the strictest regimen was enjoined. All appeared

to progress favourably, and no alteration was made
days. At the end of that time the plasters were rem
first of a solution of hydriodate of potash (1 gr. to t
quently of the solution of muriate of ammonia, was u

All went on most promisingly for the first four w
eye was attacked with ophthalmia, the result probably
ularity in diet. The inflammation invaded the iris a
and to such a degree that the thinned cornea was pu
a keratocele, to such an extent that the bursting of t
riously apprehended. By venesection, however, leec
tion of solution of alum and ice, and by the use of
danger was arrested and the attack subdued. In a
the great joy of all parties, was found uninjured; a
period of five months, it continued to exhibit the sam
which was enjoyed previous to the inflammatory at
may be expected, is near-sighted, requiring to hold o
and to place them in a good light. This is readily
greater convexity of the cornea, the small size of t
fact that the now-made aperture is somewhat more c
Glasses could effect much in these circumstances; b
the amount of vision is most satisfactory, and to the
examination the white and opaque portion of the c
found removed, while the internal transparent part p
pearance. In this way much of the old deformity i
addition to the more substantial benefit of good sig
ance of the patient is much improved. Concerning
fortunate results, nothing is further from Dr. Gulz's
tion of any supposed merit arising from the dexter
the superior wisdom with which the after-treatment
it requires considerable dexterity and steadiness o
true, and not less, great attention and care in the
claims of the case to consideration, rest mainly, pe
tive novelty and rarity, and especially on its unexpe
the utility of the art may be extended, and not a few
stored to comparative enjoyment and comfort.

Lon. and Ed. M. J. of M

70—LATERAL OPERATION OF LITHOTOMY.—By W
geon to the Royal Infirmary, Aberdeen, and Lecturer o
Institution.

[In the principles which have guided Dr. Keith in
ation, he agrees in general with the majority of Engli
In some respects, however, he differs from them, a
have endeavoured to make the following abstract o
per. He is more than usually careful in his prepara

The instruments I use, and would recommend
simple. 1. The staff is large, curved, and long in t
well into the bladder, having a wide deep groove, n
on its convex aspect, but between them, the groove
ruptly, as a check, fully half an inch from the p
2. The knife is long in the handle, narrow and sh
short as it is, its cutting edge is limited to an inch
point; the back of the point is rounded off a little;
thick, so that a very short hold can be taken of it w
heel can do no harm when opening the urethra in the
3. The probe-pointed bistoury is very narrow, thick i
until it reach within an inch and a quarter of the poi
of cutting edge. 4. The blunted gorget has its left
other ground to an edge, and then blunted with a file.

ed into a blunt button. It is a copy from "Cheselden's Conductor," as represented in one of the plates in Heister's Surgery, see p. 183. 5. The slit probe will be found useful in pushing home the loop of the ligature, when it is thought advisable to tie the transverse perineal artery in weak and elderly patients. 6. With such a sharp hook, in a case where the artery of the bulb was cut in a fat subject, that artery and the transverse perineal forming apparently in one common trunk, the perineum so deep as to prevent ligaturing, and sponge-plugs failing to restrain the hæmorrhage, the trunk was easily caught in the fold of the hook, and the bleeding effectually and permanently stopped by noosing the bend of the vessel over the point and heel of the instrument, and allowing the hook to remain in the wound until two days after, when ulceration liberated it. Were it necessary, the pudic artery might easily be hooked and secured in the same way—a screw joining, half an inch above the hook, would allow the handle to be withdrawn, and leave the vessel safe in the close embrace of the ligature and the curved portion left behind.

As to forceps, Cheselden's has never been improved upon—strong in the handles, that they may not yield and thereby lose grasping power—long, for large stones—the blades of all hollowed—curved towards each other at the points, but not actually meeting—rough in the hollow, but not very sharp round the edges of the blades, lest the stone be thereby cut and chipped. The straight flat blades take an insufficient hold, and their points gape so as to dilate the wound during extraction much more than that above described.

[Dr. Keith differs in some respects from our best surgeons in the mode of making the first incision. "The most common error," according to Sir Charles Bell, "is in making the incision too high—feeling for the staff." He has seen full one half of the incisions above the level of the arch of the bone, and consequently useless. The effect of this is, that when the operator has grasped the stone in the forceps it is driven out of his hold by coming against the arch of the pubes; and he cannot, as he ought, draw downwards because the incision is not low enough. With this difficulty in his view, Dr. Keith, in common with other British surgeons, makes his external incision as far as he can, with safety, from the symphysis pubis. He asks, "And what is there to fear in going past the side of the rectum, in place of going past the side of the bulb as recommended? Nothing, taking care of the gut; there is literally nothing to cut but the *levator ani* and cellular tissue, till you reach the edge of the *gluteus maximus* muscle or the external sacro-ischiatic ligament, were it ever possibly required to cut so deep." Dr. Keith goes on to say—]

The *sphincter ani* being irritated to make it contract, and the perineum put on the stretch by the expanded fingers of the left hand, the knife is entered boldly behind the swell of the bulb close to the raphé, only one inch in front of the anus, in an adult; the knife is directed downwards and outwards, so as to run midway between the anus and tuberosity of the ischium, inclining more to the latter, becoming gradually shallower; the wound terminates at or near the edge of the gluteus muscle, about two inches behind the anus—the line of incision being straight from the point of commencement.

By this incision I have, without difficulty, removed a stone measuring nearly three inches in diameter. In truth it makes an approach to the outlet provided by an all-wise Creator in the other sex, enables you to act with your forceps in dilating the bladder and in extracting the stone in the proper line of axis, without fatally bruising the soft parts that intervene between the rami of the pubes and the forceps, when they are entered higher up and more forward; and, finally, it gives the most dependent opening that it is possible to conceive, for the escape of the urine during the recovery; and that opening exactly in a line with the internal incision which you make into the bladder, making the whole wound one clean cut from the neck of the bladder to the edge of the hip. The majority of those who have re-

cently written on the lateral operation of lithotomy seem disposed to
commend the first incision to be carried farther back than it formerly use
be; but, in general, they speak too indefinitely to afford any rule by wh
a beginner can be guided; one orders the incision to commence an inch
hind the scrotum—but where is the line at which the scrotum terminat
another begins the incision before the bulb, cuts only integument, a
when past the bulb, enters the knife more deeply, and so on—all advis
to pass the anus a little way; but all this is enjoined in Bell's stand
work, and still the line laid down is fatally far forward, so that their un
directions only encourage the young operator to practice the same.
Benjamin Brodie, in his lectures on the Diseases of the Urinary Org
published in 1842, is one exception. He is very clear and specific on
point. At page 130, he begins, "I say, then, let the opening in the ure
be made deep in the perineum *behind the bulb*, and as near as can be to
prostate. Place the thumb of your left hand on the skin over the staff;
in a man of ordinary size, about an inch and a quarter before the anus.
gin your incision immediately below this, on the left side of the ra
and continue it backward and toward the left side, into the space betw
the anus and the tuberosity of the left ischium. Here you may cut fre
you can injure nothing of consequence." He adds, a little after, "All t
incisions are, you will observe, made low down the perineum, that is,
the rectum." And again, "There is also a greater authority in favou
this mode of proceeding. Cheselden made his incisions in the way w
I have mentioned, as is proved by the anxiety which he evinced to a
injuring the rectum. Had he done otherwise, it would never have ent
into his contemplation that the rectum was in danger."

But, says Dr. Keith, life and death, in the great majority of instan
hangs upon the right performance of the next step in the operation, w
I now proceed to consider. That is,

The second incision. When the first incision has been made, as I
directed, no difficulty will be found in reaching the face of the prostate g
and membranous portion of the urethra—the fore-finger of the left han
rected upwards and backwards, under and behind the bulb, will answe
useful purposes for dissection—the transverse perineal muscle at its p
of union, and a sufficiency of the levator ani have been cut, and cellula
sue only remains between the operator and the parts he has second
penetrate. It is worse than useless, therefore, to play with an edge to
a deep wound where its presence is not required. The prostate reac
the staff, as it lies in the membranous portion of the urethra, has to be
for; and here I must warn the beginner not to expect to feel the staff
distinctly:—the word membranous deceives such, and they are not at
prepared for what they will always find, viz., a thick firm substance
rounding the urethra, through which they have to cut before reachin
urethra or staff. The knife with which the operation was commenc
inserted, as close to the apex of the prostate as possible, a small sl
made sufficient to admit with ease the end of the probe-pointed bistou
the knife being laid aside, the narrow blade of the bistoury laid well int
groove of the staff is slipped along into the bladder: the point is then
in the groove, and the handle moved outwards and downwards to a m
rate extent, so as to insure the *sphincter viscæ*, prostatic urethra, and a
portion of the prostate gland being cut. (A little urine usually flow
this stage.) The gut is in no danger, as the bistoury has no cutting
but close at the point, and that portion is at this moment wholly withi
prostatic urethra and bladder.

Keeping the gut, however, out of the way with two fingers of the
hand, I usually, in withdrawing the bistoury, bring it out of the pro
and take a sweep along the lower angle of the wound out to the very
so that not a fibre can afterwards interrupt either the stone or the uri
its escape subsequently—laying down the bistoury I take up the go
and having lodged its round probe beak in the groove of the staff, I p

onwards into the bladder, neither with force nor in haste, but by a firm and steady movement, guarding against the possibility of a plunge—the tearing edge directed downwards and outwards, exactly in the line of the external incision, and consequently, being a direct continuation of the incision begun in the prostate by the bistoury. (At this stage the bladder empties itself of urine by a gush along the hollow of the gorget.) In this way the incision can, if needs be, be carried to the very verge of the prostate, without any risk of the wound extending beyond that gland, the structure of that organ, so different from the tissues composing the coats of the bladder, rendering it an easy matter to tear cleanly the former with an instrument and a force that only dilates the latter. In this very way Cheselden entered the bladder, but his gorget, or conductor, as he called it, was wholly blunt; and it was alleged that he often entered the bladder with it by simply but rapidly dilating the prostatic urethra, which of course occasioned difficulty and hindrance in getting out any but small-sized stones. This led Sir Cæsar Hawkins, at an after period, to put a cutting edge on Cheselden's conductor to insure a positive division of the prostate gland. We have authentic records to prove that, although Sir Cæsar Hawkins succeeded well with his cutting gorget, yet his success cannot compare with that of Cheselden; while in the hands of Hawkins's disciples the cutting gorget has proved so fatal a weapon as at length to have caused it to be almost banished from English surgery. I have looked in vain for any approach to the success of Cheselden since his time, until I find Mr. Martineau, at the Norwich Hospital, again effecting his entry into the bladder with Cheselden's blunt gorget, and immediately recoveries multiply and deaths diminish, until an approximation to his average of mortality is made. The same success continues in the same institution, resulting from the same cause in the hands of Martineau's successor, Mr. Dalrymple; and I do not remember a fault having been found to their practice, but that at times, as in the case of Cheselden, doubt existed whether the neck of the bladder was incised or not. Another eminent surgeon has laid the result of his experience before the profession, I mean Mr. Liston, whose success has been very great; and seeing that as yet he has not used the blunt gorget, his explicit avowal of the principles by which he has accomplished so many cures, tends powerfully to strengthen the conclusion which Cheselden's experience alone might long since have taught the whole world—that a small incision into the bladder is sufficient in all ordinary cases for the removal of stone; and that in no case is it safe or advisable to let the second incision extend beyond the base of the prostate; and that the success of all the most fortunate lithotomists has depended upon the narrow limit to which they restricted themselves in dividing the neck of the bladder.

With these ideas in my head, it occurred to me to use a gorget neither blunt nor sharp—an edge on it that behooved to cut through a substance so solid as the prostrate gland, yet so blunt that such a tough elastic membrane as the bladder would stretch upon its edge; and this I found of easy accomplishment. I have several times finished the whole incisions with the first knife, using no gorget when the perineum was unusually shallow, contenting myself, of course, with a very moderate incision into the prostate, and all did well; but in the great majority of the cases the neck of the bladder and prostatic urethra were slit obliquely downwards and outwards to about half an inch, and then I finished the incison by the aid of the blunted gorget. Thus I insure a positive entrance into the bladder, obviating the chance of merely dilating the *sphincter vesicæ*, as Cheselden and Martineau are alleged to have often only done—and thus I escape the risk of cutting parts that never should be cut in this operation. I have seen both the gorget and the knife, in old experienced hands, make a fatal wound in the fundus of the bladder; but that is next to impossible with the gorget I recommend. Take the worst kind of case that can well offer; a deep perineum, an enlarged prostate, with the veins enlarged around it, and the calculus full sized—how unsatisfactory does the operation prove in every

such case, having only scalpel, broad-bladed knife, or cutting gorget to make a sufficient entrance into the bladder with, those can best testify who have encountered such cases:—I also have—and the patients beyond seventy years of age; yet by the limited slit in the prostate, effected with ease by means of the long narrow-bladed probe-pointed bistoury, and the gradual, but safe and effectual continuous tear in the same gland by a blunted gorget, with a rather broader blade than usual, the object was easily accomplished, without even the risk of harm having been incurred.

The number and variety of modes and instruments employed by different surgeons sufficiently proves the apprehensions felt at this stage of the operation, and no doubt the hazard is very great; yet to me it seems that the danger to the patient mainly arises from the neglect of the principle I am seeking to inculcate, and that even by those lithotomists who *speak* of a small second incision. I need not dwell on the ingenious but destructive weapon, the lithotomic cache, either single or double, so patronized by the French, yet so deservedly repudiated by all English surgeons, as there is little fear of its adoption by any one here; but not so with the broad-bladed knife of Sir Benjamin Brodie—his merited eminence is too likely to commend any suggestion of his to immediate acceptance—and, therefore, I venture to remonstrate against its use. A blade so broad when up at the urethra, where the probe point must enter, will almost touch the left ramus of the pubes as it closes in towards the symphysis, and there endanger the continuation of the pudic artery, or at all events, the artery of the bulb; it is not it *may*, for I have *seen* it happen in the hands of an old and experienced surgeon.

Again, the wound in the prostate will be longer than was contemplated should the assistant move the staff even but a little to one side, by altering the angle of inclination of the knife, for of course the left hand of the surgeon will be too fully occupied in keeping the rectum out of harm's way to admit of much attention being given to the staff; and, *finally*, the broad sharp blade, bellying out without a blunt shoulder as the cutting gorget even had, is exceeding likely to wound the bladder from within, as that organ falls rapidly in on the evacuation of the urine, and must embrace the blade all round; and in the act of withdrawing such a knife the rectum is a second time in danger. I trust I may be pardoned the freedom of these strictures. There is no man in the profession I so highly respect—no man who has so fairly stated those views on the subject of lithotomy which I only aim at corroborating; yet my higher respect for the truth compels me to warn the unwary, where he would, unintentionally lead them wrong. All the dangers alluded to are escaped from by the use of the blunted gorget, and as free and as clear an opening into the bladder obtained as by the broad knife commented on.

But another advantage accrues from the use of the gorget—it lies with safety in the bladder, and, the staff being withdrawn, becomes the actual conductor of Cheselden, guiding the forceps without violence safely into the bladder—a business not easy to the most expert in a deep perineum—or if so, then the ease has been purchased by a deep incision so free as will, in all probability, cost the patient his life. To all, therefore, the hollow of the gorget presents a fair channel along which to press the forceps till lodged in the bladder. To a beginner such a help is invaluable; only let me warn all beginners that their trust must not rest on mechanical appliances, but on a thorough knowledge of the anatomy of the parts concerned, a right apprehension of the principles that should control every step in the operation, and a calm collectedness of mind ready for any emergency. The staff is lodged in the urethra and bladder, that the operator may find a sure director into the latter when his dissection has brought him to the face of the prostate; let it, therefore, remain fixed in the mesial line, pressed against the *symphysis pubis* during the whole operation, and then he knows where to find it, just where by nature the urethra runs. The advice given by some writers, to make the assistant meet the knife by pressing the con—

vexity of the staff against the left side of the perineum, is, to say the least, injudicious; it occasions a risk of the point of the staff escaping from the bladder; it alters the natural position of parts, and limits the space into which the operator has to cut, pushing his incision towards the ramus of the ischium, under the edge of which the pudic artery runs, the nearer to which that the lesser arteries are cut the more energetically will they bleed; and, *lastly*, the parts are thereby so pressed down upon the rectum as to endanger it at the very first cut.

Then, again, the blunt gorget is supplied, not as a substitute for anatomical knowledge, but as an instrument capable of opening the neck of the bladder just as far as safety admits, (that is, as far as the prostate gland extends), and quite as far as sound principle requires, seeing that the elasticity of the coats of the bladder is sufficient to allow of the easy escape of any fair average sized stone, after that gland and the sphincter of the bladder have been divided. Surely much need not be said to satisfy any surgeon that one is quite safe to draw upon the elasticity of the coats of the *living* bladder to allow of the escape of a large stone through a comparatively small opening; the prostate might be injured and shattered by great dilatation; no elastic quality resides in it; but it is essential to the very function of the bladder that it shall dilate and contract—at one time reduced to the size of an egg, and in six hours expanded to the size of a human head—and again, in half a minute, by the power of the will, down to two and a half inches in diameter. What difficulty can there be in obtaining for a minute or two the expansion of a small wound in such a membrane, freed of the girding effect of an uncut prostate, to allow of the escape of even a large foreign body, forcibly withdrawn in the grasp of a forceps, whose blades, smooth on the back, come out possessed of all the powers of the wedge; and why, then, incur the fatal risk by extending the incision beyond the base of the prostate, of laying open the pelvis to the ingress of urine, by wounding the ileo-vesical fascia, when you not only have this elasticity in the coats of the bladder to draw upon, but actually do draw upon in every case where the stone reaches an average size, one and three-quarters, by one, and by one and a quarter inches in diameter? Enclose such a stone in the blades of a forceps and then say if a lineal wound of even three inches long will admit of its exit without considerable expansion—and who among the advocates for free incision is prepared for such cutting, all to give transit to a foreign body occupying half a minute in its progress, and the opening then having to be healed up? I would add before closing this section, that much fallacy has been introduced into this question by parties experimenting on a dead body, and then applying their conclusions to the living—forgetful all the time that the power of a living muscle, whether in resisting or sustaining, is to a dead muscle as 1000 to 1—in truth they can form no fit subject of comparison.

Trusting, as I do, so much to the dilatability of the coats of the bladder for affording a safe exit to the stone, it will at once be seen that some caution is required in its extraction, and I come, therefore, in the sixth place, to say a few words on that subject. It has often struck me on witnessing lithotomy, that there was little or no system or fixed principle ruling the surgeon in this stage of the operation. When searching for the stone, it seemed only a succession of ineffective glamps with the forceps. When extracting—a succession of violent pulls, equally ineffectual for the attainment of the end desired.

With the closed forceps let the stone be searched for—felt; let the closed blades on their flat sides be pressed down on one side of the calculus to below its convexity, then fixing the lower blade in that position, with reference to the stone, let the handle of the upper blade drop, if need be, pressed down, until the blade is raised quite above the level of the stone, when it only requires a semi-rotation of the instrument, the lower blade still occupying the fixed point, and the stone is at once enclosed in its embrace. This for stones of average size and upwards; small stones may lodge, where the

prostate gland is large, in the hollow behind it, or where the person is pot-bellied it may be shelved above the *symphisis pubis ;* in either case the stone may be easily found by a forceps slightly curved. Where too much water has been in the bladder at the time of operation, the circular fibres may contract, and enclose the stone in the very fundus of the bladder. This difficuly is to be detected and overcome by the steady progress of a straight moderate-sized forceps, onwards till it reach the stone. I have seen the forceps go to a great depth in such a case, and nothing wrong but this longitudinal elongation I speak of.

The stone fitly seized in the smallest diameter, the dilation of the wound begins in earnest, by a firm but steady downward extracting power, gently moving the handles from side to side, a little upwards and a good way downwards, from time to time allowing intervals of rest to the parts, and to the operator's own hand, but never for a moment relaxing the grasp of the stone itself. It is annoying to have to witness the necessity of going again and again to poke about the bladder, the stone having been once fairly and firmly caught. Having rested, the power must be again applied, coolly, calmly, firmly bearing down, exactly as an accoucheur does when delivering a fœtal head with the forceps. Proceeding thus, a very few minutes suffice to complete the delivery ; the stretched fibres speedily retract, and a comparatively small wound only remains to be healed, and that entirely surrounded and supported by the prostate gland, which must favour its closing up.

I will not deny that the operation I advocate does endanger the rectum ; but I must say, with ordinary care injury to it is not likely to happen. The first incision only requires depth at its upper angle, for about one-third of its length, the remaining two-thirds ought to shallow rapidly, requiring little more than the integument to be cut, as the tissues beneath are elastic in a high degree, and yield readily during the extraction of the stone. I am quite convinced that the rami of the pubes have most commonly been the cause of the many desperate struggles we have heard of and seen in the extraction of calculi. There seems to be an unusual fear in the minds of some surgeons at the idea of wounding the rectum, with which I cannot sympathize. How often do we all cut it up, one, two, or three inches for the cure of *fistula in ano*, and far from harm happening, it turns out one of the most successful and satisfactory of surgical operations. Once, in extricating a large angular fragment of a stone which had fractured in the grasp of the forceps, a small wound was made in the side of the gut, and twice a nitch was made with the knife. In the first instance, before closing the operation, I divided the *sphincter ani* as if for fistula, cutting through from the nearest point at the upper angle of the wound. By this proceeding I left so little tissue to close in upon the urethra, that it gave me much after annoyance, and taught me what I earnestly recommend to others, to cut the sphincter through at the lowest point of the anus, and then push the lateral flap up into the gut to cover in the membranous portion of the urethra. The result will prove quite satisfactory. The above case strongly illustrated to me the ground of objection to the recto-vesical operation—an operation which, I am certain, might be practised with great safety to life, could the suggestions I have offered, with equal certainty ensure after comfort. But again, I would say, the question is needless if the low lateral incision is adopted.

As I have before said, fatal infiltration of urine arises in every instance from the deep incision extending beyond the base of the prostate gland, and penetrating the fascia that passes from the sides of the pelvis on to the bladder at the boundary line of the gland. Once past this defence, and the urine comes in contact with the peritoneum—the necessary consequence of which is death—less from pure peritoneal inflammation, judging from all the cases I have seen, than from the poisonous absorption of urine.

Dr. Keith ends this excellent paper by summing up as follows :—The patient should be previously brought into the best possible state of health.

Tongue clean, and urine as nearly natural as may be. The nates clean shaved—a dose of castor oil administered on the evening prior to the day of operation—an enema on the morning of that day—and only the accumulation of thirty minutes' secretion of urine in the bladder—prepare the patient for the operating table. A large curved staff, with a deep groove on its right lateral aspect, is then to be introduced into the bladder and the stone felt. The feet and hands to be then firmly secured to each other. The nates brought just over the edge of the table, thirty inches high. The knees steadied by two assistants, but not tied by a tape passing over the nape of the neck. The staff held by the third and chief assistant, from the commencement to the close, firmly in the centre line of the perineum, fixedly against the *symphysis pubis*, and fairly into the bladder, care being taken that no movement of the patient, and no dropping of the assistant's hand, shall occasion its withdrawal from that viscus until an entry has been effected. The external incision to commence at the raphé one inch anterior to the anus, to pass outwards and backwards midway between the anus and *tuber ischii* to the extent of three inches or more from the point of commencement, according to the probable size of the calculus, previously ascertained. The wound deep at its upper angle, only to be carried on with the finger, almost unaided by the knife, fairly below, and then in behind the bulb of the urethra, until the face of the prostate gland and membranous portion of the urethra are felt, the knife is made to enter the groove of the staff in the latter, and just notch the apex of the gland; this opening is enlarged, continued onwards to the bladder, the *sphincter vesicæ* and prostatic urethra cut in a direction outwards and downwards, by means of the narrow-bladed probe-pointed bistoury. The blunted gorget carries this incision to the very base of the prostate, if that should be required. The forceps easily and safely introduced along the hollow of the gorget, is then made to embrace the stone, as formerly directed, and becomes a safe and efficient dilator of the coats of the bladder during the extraction of the stone. There are few operations to which the adage, *Festina lente*, does not apply. To lithotomy it is especially suitable, and to this state of it peculiarly applicable. The words "make haste slowly" should be ringing constantly in the surgeon's ear. *Ed. Med. and S. J. April*, 1844, p. 396.

II.—ANEURISM TREATED BY COMPRESSION.—By R. Liston, Esq., Surgeon to University College Hospital, &c.. &c.

[Another interesting case of this description has been treated by Mr. Liston. In November, 1843, the patient moved rather a heavy cask, and in so doing exerted himself much, and he thought that he then injured his leg, for immediately afterwards he began to experience pain in the part; about a fortnight afterwards he observed that a swelling, about the size of a walnut, had formed upon the lower and inner part of the thigh; this slowly increased in size, and after the lapse of two or three weeks he noticed a pulsation in it. It then rapidly increased in size, and pulsated strongly; a rough murmur with each pulse was also heard over its site, on the application of the stethoscope.]

The instrument for compressing the artery was placed upon the upper part of the thigh, but, from the conical form of the pad, considerable difficulty was experienced in maintaining pressure upon the vessel. To have at night half a grain of hydrochlorate of morphia; middle diet, and a pint of milk.

Jan. 21. Hydrochlorate of morphia, three-quarters of a grain, at night.

22. The pressure of the instrument has caused considerable excoriation of the upper and inner part of the thigh; it has also occasioned severe pain. The artery appears to have escaped from the compression, as a loud *bruit* (which had ceased after the first application of the instrument) is again audible. The instrument has been again adjusted, and placed over the artery nearer the upper part of the thigh. The size of the tumour has diminished much. Repeat the hydrochl. morphia, h. s.

23. The pressure of the instrument has been productive of so much pain that its use must be again given up until the pad can be altered. Repeat the morphia.

29. The tumour appears to have become more circumscribed; he suffers much less pain in the leg than formerly; superficial sloughs have formed on those parts upon which the chief pressure of the instrument was exerted.

Feb. 1. The slough has separated from the inner wound, not from the outer; the tumour is very hard; there is a slight pulsation, and the *bruit* much less distinct than formerly. The tumour measures sixteen inches at its greatest circumference.

20. The pain has gradually got less, and there is but little at present; the tumour is rather smaller, and appears more flattened. A leather splint was applied to the outer side of the limb (a hole being cut in it to allow of the dressing of the ulcer) to prevent the effect of the pressure of the external pad of the instrument, and a pad of soap-plaster, spread on soft thick leather, placed over the artery, to protect the superjacent integuments before reapplying the instrument. Even when the pressure was on, the *bruit* was with difficulty made to disappear. The leg was bandaged from the feet upwards, and a pad of lint placed over the aneurism as a compress.

21. Tumour smaller, measures 15 inches; *bruit* less distinct; arteries are felt pulsating at two or three parts of the thigh, one especially along the outer border of the anterior surface; less œdema of the integuments; ulcers healing rapidly.

24. Last night he had very severe scorching pain in the tumour, which was rather larger, and between it and the knee the bandage was altered, and hydrochl. of morphia, gr. i., ordered.

28. Has been almost free from pain, but cannot sleep; the tumour is rather smaller; no *bruit* nor pulsation.

March 4. No more severe pain; inner ulcer healed; the tumour measured this morning fifteen inches and a half; murmur still heard, but no pulsation felt either in it or in the course of the artery between the aneurism and the seat of the pressure.

11. No murmur; tumour measures about fourteen inches and a half; it appears flatter, and as if constricted at its lower part, giving rise to a slight separation into two swellings; the instep is tender, and the integuments over the upper part of the tibia were red and tender to the extent of two or three inches. The ulcer on the outer side, which is just below the root of the great trochanter, does not heal rapidly. Dress it with red wash.

12. This day the splint and *presse artere* were removed, but the leg bandaged from the toes, and a compress over the aneurism; there was slight œdema of the inner part of the thigh and leg; feet warm; sensation tolerably perfect.

14. Ulcer healing; tumour about a line smaller.

In all respects the case promises very favourably. The results will be reported when the condition of the patient affords the opportunity of publishing further details. *Lancet, March* 23, 1844, *p.* 84.

72.—ANEURISM OF THE EXTERNAL ILIAC ARTERY.—By Richard Hey, Esq., Surgeon to the County Hospital, York.

[We need not detail the history of this case. It will be sufficient to state that it commenced as a small, hard tumour, immediately above Poupart's ligament, midway between the anterior superior spinous process of the ilium, and the tuber of the ischium, and gradually increased in size with evident pulsation. In about eight or ten days the tumour had become conical, like the pointing of a large abscess, and the skin was thinner, red and shining. It was now decided, in consultation with Mr. William Hey of Leeds, to take up the common iliac artery.

It seemed out of the question to attempt tying the external iliac, because from the very large size and extent of the sac, it was evident that there

would not be room for a ligature between that and the bifurcation of the external and internal iliacs; and in addition to this, the probable state of that artery made it unwise to run such a risk, even if it had been practicable. There were present at the operation, Messrs. Nelson and Ellis, Mr. William Hey, and Mr. Teale, of Leeds; Mr. Dodsworth and Mr. Reed, of York—to whose kind and very able assistance I feel deeply indebted. The tumour now occupied the whole of the left iliac fossa, its base projecting considerably below Poupart's ligament inferiorly, and superiorly extending to within less than an inch and a half from the navel, being six inches across from above to below, and six inches and a half from side to side, projecting also from the plane of the abdomen fully three inches.

The patient was placed on his back on a mattrass, his shoulders moderately raised. The incision was commenced two inches and three quarters above the navel, and exactly three inches to the left of the median line. This was carried down moderately curved to the base of the tumour about six inches, and was afterwards enlarged by an angular continuation, one inch and a half in length. The fibres of the external and internal oblique muscles and transversalis being successfully divided, the transversalis fascia was readily raised by means of a director, and carefully opened out through the whole length of the incision. The peritoneum now protruded in some measure; it was, however, kept down without much difficulty, and being gently drawn towards the opposite side, I was enabled slowly to insinuate my fingers behind the peritoneum, gradually separating it from its cellular attachment to the parts beneath. The common iliac artery was easily reached, and upon compressing it with the fingers, the pulsation in the tumour ceased at once. A little time was occupied in scratching through the sheath of the artery with the point of the aneurism needle; this being accomplished, the needle was passed under the artery from within outwards, armed with a double ligature of staymaker's silk, waxed. By holding aside the peritoneum and viscera, we now obtained for a moment a view of the artery, and ascertained that nothing else was included in the ligature; this being tied with the fingers close down upon the artery, all pulsation in the sac entirely ceased, and never afterwards returned in the slightest degree. The exact position of the ligature was, I believe, an inch below the bifurcation of the common iliacs. The wound was closed with six sutures and strips of adhesive plaster, and over the whole a coating of lint dipped in strong mucilage. Time, twenty-five minutes. The patient was now a good deal exhausted, although so little blood had been lost that it had not been necessary to take up a single bleeding vessel. He vomited also some brandy and water which had been given to him during the opperation. He took, however, a cup of boiled milk, which was retained.

Evening.—Patient had been very restless and uneasy after the operation for some hours. A camphor draught, with twenty-five drops of Battley's sedative, had the effect of composing him. There was now moderate reaction; pulse 90. The wound continued still very uneasy.

Monday, Dec. 4, 9½ A. M.—Has passed a tolerable night, having had sleep at intervals without any further opiate. Pulse 95, rather irritable; bowels not moved, but distended with flatus; hiccup; no pain. Two grains and a half of calomel, and a quarter of a grain of opium, to be taken immediately, and in two hours time half an ounce of castor oil in peppermint water. Farinaceous diet.

7½ P. M.—Patient looking very ill; countenance anxious and sunken. No action of the bowels; a second dose of the oil had been rejected; hiccup increased; body very tympanitic and uneasy. The bandage round the body was slackened, with some relief Great thirst, and difficulty in making water. Pulse 98. An enema, consisting of gruel, with two scruples of gum assafœtida, immediately; small doses of liq. ammoniæ acetatis, occasionally.

Tuesday, Dec. 5, 10 A. M.—Had intervals of light but refreshing sleep during the night. Enema had produced one good evacuation, with much

relief. No tenderness on pressing the abdomen; pulse 98. Patient, upon the whole, in a satisfactory state.

Vespere.—Not quite so well; rather more feverish; pulse had risen during the day to 104, now 100, and not so soft: tongue dry. No evacuation from the bowels; urine high coloured. Restless.

Calomel, 1 grain. Compound ipecacuanha powder, 2 grains. To be taken every three hours, with an effervescing saline draught. A common enema in the morning.

Wednesday, Dec. 6, 9½ A. M.—Had passed a tranquil night; refreshing sleep. Enema had acted well; body soft and flaccid; pulse 89, soft. Dressed the wound, which showed a great disposition to heal; discharge very moderate. Omit the calomel; continue the saline draughts and farinaceous diet.

Dec 7.—Nothing material; all going on well; pulse 80. Bowels moved three or four times yesterday. Patient allowed some beef tea and arrowroot, mixed. During the last day or two the tumour had looked very threatening and ready to suppurate.

December 8.—Dressed the wound, which upon the whole was going on well.

A remarkable feature in this case was the extreme and unusual rapidity of its progress, after its first commencement, only three weeks having elapsed from its first appearance of the size of a hazel nut, before it had attained the formidable size which has been described.

[The foregoing important case is, we believe, the only instance in which the common iliac artery has been successfully tied *for aneurism* in this country; and we beg to draw attention especially to the situation of the incision. This is a point of great consequence, as in the case before us the operator was relieved from all chance of embarrassment from the chord, &c., a source of trouble which has been complained of by some who have performed this operation. It may also be observed, that in any case in which it might be necessary or advisable to take the chance of tying the aorta, this mode of doing it will be found in every respect far more safe and facile than that adopted by Sir Astley Cooper.—*Ed. Prov. Jour.*]

Prov. Med. Jour., May 1, 1844, *p.* 58.

73.—TREATMENT OF LATERAL CURVATURES OF THE SPINE.—By Marshall Hall, M.D., F.R.S., &c.

The various plans which have been hitherto proposed for the treatment of spinal curvature have consisted for the most part, in the administration of,

1. *Posture.* 2. *Stretching.* 3. *Pressure.* 4. *Stays.* 5. *Rubbing.* 6. *Exercises.*

That each of these means of cure may possess a certain efficacy, and that all, combined in a well-arranged plan, may especially do so, I am quite ready to admit. But I am also of opinion that each has been attended by its injurious consequences. I have known the recumbent posture continued for months, and even years, until the dorsal and lumbar muscles have, in spite of the exercises conjoined with it, become perfectly emaciated, and totally incapable of performing their office of supporting the spinal column in the erect position. I have seen the spine straightened by means of the recumbent posture, by stretching, and by pressure made on the projecting parts, retain its form during the continuance of the horizontal position, but gradually yield and *fall* into its former curvature on the resumption of the erect position. It is plain that these three modes of treatment can have no permanent effect, unless, indeed, the form assumed under their influence be confirmed, as it were, by the deposit of solid bony matter during *growth*. The same observation may be made in regard to the stays hitherto devised, which not only frequently induce injurious pressure, but especially exert an injurious effect upon the shoulders, raising them inordinately, and on the points made the "*points d'appui*," particularly in the young and very grow-

ing subject. Of mere rubbing little or nothing can be said, it can accomplish nothing. The most useful remedy in general use is the system of *exercises* adopted in the treatment of curvature. But these exercises are, generally speaking, too violent, and rather fatigue than nourish and strengthen the muscles, which are so frequently atrophied in this disease.

The plans for the treatment of curvature of the spine which I propose have three several objects in view:—The first is the restoration of the natural form. The second, the re-nutrition of the weak and emaciated muscles. The third, the restoration of the health and vigour of the general system. I propose to accomplish my first object by supports applied to the curvatured form, so constructed as to give the most perfect support without inducing the least injurious pressure, either on parts too protuberant, or on others, as the axilla or the ilium, taken as points of support.

Let the patient be artificially made to assume the straight or perfect form by means of posture, stretching, and pressure: under these circumstances, carefully preserved, let a cast of the bust be taken in plaster of Paris; from this cast let a mould in wax be taken; lastly, on this mould let stays of steel be accurately fitted (or let copper be deposited by means of the electrotype and sawn in two vertically). This is to be covered and lined with soft leather and slight wadding, and fixed and worn in the ordinary manner, drawn to the proper degree of tightness. It is obvious that these stays being put on and fastened in the recumbent posture, the bust *must* retain the perfect form, although the patient may now resume the erect position; that no partial or injurious pressure will be made on any part; and that there is neither any constrained position nor any obstacle to the due use of the muscles. Such a stay may be always worn, even by the incurable; but to the curable it affords the opportunity of assuming the erect position and of adopting the most appropriate exercises, even in the open air, not only without injury, but with every benefit which can accrue from them. The length of these stays must be such as not to interfere with the movements of the arms. The crutches, as they are very properly termed, of the ordinary surgical stays, have this injurious effect; and while they merely raise the shoulders unduly and awkwardly, they allow the spine to sink down between them and resume its curvature. On each point tending to project efficient pressure is made, while to the yielding portions of the spinal column efficient support is given. This pressure and support are gentle, diffused, and the stay being perfectly *symmetrical* with the bust, perfectly equable. No injurious pressure is made on the bones of the pelvis, preventing their just development. No violent pressure is made on any part. There is, in a word, *no* pressure from without. The pressure which does take place is that induced by the assumption of curvature, of which the support proposed becomes the immediate preventive or corrective.

The support afforded by this stay, while it is thus equable, will also be most efficient. The patient is constrained to assume and to retain her most perfect form, while the limbs are free to perform every kind of motion, to go through every kind of exercise, and the patient breathes the free and open air. It is useless to pursue this subject. The observations which I should make will naturally occur to all; I will, therefore, pass on to another topic. It has been stated that *rubbing* is a measure adopted in the treatment of curvature of the spine. But friction alone can do little. It may reduce the swelling or pain produced by chronic inflammation or rheumatism; but it can accomplish little in cases of atrophy or defective nutrition, and such is the state of things in the muscles passing along the convex parts of spinal curvature.

In order to accomplish the restoration of nutrition in these atrophied muscles something more must be done; and this remark leads me to a second proposition for the treatment of these distressing cases. It is that of inducing, by means of rubbing, what I will designate *counter-muscular effort*. If, when the patient is sitting perfectly erect and unsupported, we press on any given point along the spine, with the finger, every muscle situated *below*

the point of pressure is necessarily called into a state of action, which (action and reaction being equal, but in contrary directions) is, in a degree, commensurate with that pressure, unless, indeed, the patient *yields* to the pressure. In this manner, any one of the numerous muscles situated on either side the spinal column may be called into action *at will*, and this by means of the very friction which was formerly used in a form that may be termed *inert*, and in a degree proportionate to the *pressure* with which it is applied. The patient being placed unsupported in the erect position, the hand or hands are to be passed along the muscles of the spine, pressing, at first very moderately, then more and more firmly, while they are carried upwards and downwards alternately in the ordinary manner of rubbers. At every successive instant a fresh set of muscles is called into action more particularly, while the whole system of the spinal muscles is made to contract together, or in their turn.

But the very muscles which are most atrophied and enfeebled are brought into action by the simple manœuvre of applying the pressure and rubbing immediately *above* them respectively. In this manner their nourishment is brought, in a certain degree, under our control, and the spinal column is held straight and erect by augmenting the power of its natural and living supporters. By the stays already described the morbid extension is removed from the enfeebled, atrophied, and stretched muscles. By the friction and the counter-effort of these muscles they are nourished and strengthened. By both these means they are rendered efficient in their office of supporters and movers of the spinal column and the head. These stays must, as I have already stated, be so prepared as to be compatible with the exercises of the general form, which call into action the muscles seated along the spine. They may also be so contrived as to expose an open space at the particular part along which the proposed rubbing, with counter-muscular effort, may be applied.

With both these objects in view I beg particularly to recommend the study of the beautiful work of the late Dr. Barclay, on Muscular Motion. It is replete with observations which assume the character of most useful suggestions to those who are engaged in the treatment of lateral curvature of the spinal column. As to the kinds of exercise, none of the ropes and pulleys devised to be employed *within-doors* can be of any value. The hoop, the skipping-rope, &c., used daily and properly in *free open air*, or while inhaling the *sea-breezes*, are the only exercises worthy of consideration. The hoop should be bowled with the left hand, and the left handle of the skipping-rope should be weighted. But these are particulars upon which I need not enter on the present occasion. I may, however, suggest the propriety of a seminary or establishment, on some healthy sea-coast, for young ladies of delicate health and impaired form, as worthy of the consideration of persons properly qualified for such an undertaking.—*Lancet, Feb.* 3, 1844, *p.* 604.

[Dr. Little in his admirable lectures "On the Deformities of the Frame," published in the Lancet, gives us the following remarks on the treatment of lateral curvature.]

The indications of treatment of lateral spinal curvature may be arranged under three heads; the first in importance consists in endeavouring to remove the primary cause of the deformity—debility, by improving the constitutional powers of the individual; in the second rank may be placed the application of mechanical means adapted to prevent the increase and to remove existing deformity; and the third indication consists in application of means to act dynamically on the spinal column, such as certain exercises.

It is unnecessary to devote much time to description of the measures calculated to improve the general health. As medical practitioners and students you will anticipate my remarks on this matter. Food, in proper quantity and quality, good air, moderate bodily exercise, the exhibition of steel, iodine, vegetable tonics, and laxatives, according to the peculiarities of individual cases. In very severe cases occuring at the period of life when the general growth should be most rapid, particularly if very great debility be present, you may for a time forbid exercise altogether.

In these cases the patient should have the benefit of carriage exercise, or in the summer season be permitted to recline in the open air during a large portion of the twenty-four hours. Entire suspension of corporeal exercise is highly prejudicial to persons in vigorous health, and has consequently been commonly considered equally inexpedient to persons debilitated, as in severe spinal curvature. The cases of persons in health and debility widely differ. The debilitated individual possesses little vigour to expend; if this be exhausted in corporeal exercise, none will remain for due performance of the vegetative functions of the system. You will often be surprised to observe that a person extremely weak, labouring under spinal curvature, who has long struggled to improve her health by exercise and nutritive diet, continues daily to get worse, until entirely confined to the couch, after which a manifest improvement in every function ensues. Do not mistake the import of the advice I now offer you. Use entire repose in these instances during a limited period as a means of improving the general health. It may be advantageous as a means of fulfilling the second indication, which I shall presently consider. Do not imagine that I recommend a confinement of months and years to the recumbent position as a means of curing spinal curvature.

The means of fulfilling the second indication (the application of mechanical means adapted to prevent increase and remove existing deformity) will be more intelligible if you reflect on the physical condition of the spine. You perceive a weak column unable, through want of firmness and tone, to support itself in the erect position, daily yielding from the perpendicular line through the combined influence of gravity and unequal muscular traction. You further observe, when the curvature is not of long standing, that the column is straightened on the assumption of the recumbent position. Is it not proper, under these circumstances, greatly to abridge the period during which the erect posture is attempted to be maintained, and thus be content to follow the course pursued by every nurse or parent who perceives a child's spine to bend beneath the superincumbent weight. Undoubtedly the most certain plan would be to confine the patient during the whole of the remaining years of growth, with the hope that if the column remained straight, or nearly so, at the period of completion of growth, it would not subsequently yield. This is an important part of the plan adopted by a gentleman now deceased, whose zeal in behalf of humanity and science is proved by the legacy of a large sum of money for the treatment of sufferers from spinal disease. Dr. Harrison, to whom I allude, attributed too much, in my opinion, to the adjuvant means contained in his "*system*," and too little to the influence of mere repose. I shall sufficiently discountenance absolute repose during long periods, as one of the means of curing lateral curvatures, when I state that, in Dr. Harrison's hands, seven years did not always suffice for the attainment of his object, and that when persevered in during a much shorter period, the wasting of the muscular system generally is so considerable, that fears may reasonably be entertained that recovery therefrom may never be affected. According to the urgency of the case you may, however, have recourse to recumbency during four or six hours daily, divided into two or three portions.

Other mechanical means of partially or completely effecting the restoration exist. It is important to relieve the column of as large a portion of the superincumbent weight as possible. Numerous spinal supports and corsets, invented by their manufacturers with the specific property of curing lateral spinal deformity, have, at all periods, been brought under the notice of the profession. Some of these inventions, on the contrary, enjoy a dishonourable privacy, their nature, if not their merits, being carefully concealed. The greater number of them answer, in some degree, the purpose of supporting the spine, being applied while in the recumbent posture; they resemble a cuirass, against which the tottering or inclined spine finds a resting point. They are not curative, and rarely prevent increase of deformity. Springs similar to a hernia truss are often applied, through the intervention of the

ribs, to the projecting parts of the column, but their utility does not equal the ingenuity of their application. Tavernier's lever belt, which I have for some time past employed with some modifications, approaches more nearly to a scientific apparatus for the cure of lateral curvature than any other I have examined.

Tavernier's lever belt consists of a band to encircle the pelvis, and should be made of light metal and furnished with semi-circular pieces to rest on the ilia. Attached to his pelvic band is a long steel lever, the angle of which may be arranged by means of a screw. This lever is directed towards the depressed shoulder (usually the left), and is intended for the attachment of a broad belt, which, taking its origin in front, at the pelvic band, opposite the left ilium (in the ordinary curvature to the right side), passes upwards across the abdomen around the prominent right side of the thorax. Part of the weight of the head and shoulders is removed by means of the crutches. The mode of operation of this apparatus in *rectifying* the position of the spinal column is simple. The pelvis affords a fixed point, so that the traction exercised upon the upper extremity of the lever, by means of the laced belt, acts powerfully and continuously, during all the movements of the frame, in compressing the ribs of the right side, and through their intervention, propels the lapsed dorsal vertebræ into the perpendicular position. The restoration is facilitated by the weight of the upper extremities being partially removed. This apparatus possesses the advantage of not subjecting the thorax to any circular compression; the wasted left side of the thorax is perfectly free, and one of the earliest signs of improvement consequent on the use of the apparatus is an evident enlargement of the capacity of this side. The relief experienced is so great that the patients spontaneously remark the diminished fatigue with which they take exercise, and the greater freedom with which they respire.

I have witnessed no instances in which the health of the patient has not, at the same time, improved. It is unnecessary to remark that, in the use of this apparatus, as in that of all mechanical contrivances for the relief of deformities, as much will depend upon the manner of application as upon the apparatus itself. Do not hastily attempt too much, but gradually accustom your patient to its use. It is well to remember the maxim, *arte non vi*, in this as in other deformities. Benefit may also be derived by causing a shoe with raised heel, to be worn on the side on which the illium is depressed. It counteracts the habitual sinking of the side through the improper attitude instinctively assumed. It rectifies the position of the pelvis, and compels the spinal column to attempt, as it were, its own restoration.

Modifications, frictions, suitable exercises, modified calisthenics, as they are termed, by which the muscles of the upper part of the frame, particularly those of the left side, may be excited to activity and strengthened, serve to fulfil the third indication. It is necessary, however, to guard against too great exertion or fatigue. By judicious application of the principles I have laid down, and by availing yourselves of the practical hints I have given you, you may, in the majority of spinal lateral curvatures, of not more than three or four years' duration, succeed in re-establishing the straight line of the spinal column. It is more difficult to remove the deformity of the ribs; those on the right side of the thorax are absolutely larger than those of the left, which have been imperfectly developed, through the distortion having so long existed during the growth of the body. They are not only larger but altered in form, and no means exist by which they can be wholly restored. This circumstance is of little moment beyond the traces presented of former spinal distortion, as proper arrangement of female dress and the skill of the corset-maker may conceal it. The principal object, *straightening of the spinal column*, being obtained, relapse of the form of the trunk, and the secondary evils of spinal curvature formerly enumerated need not be apprehended.

Lancet, March, 16, 1844, p. 813.

[Mr. Stafford has published an essay on diseases of the spine, in which he points out some very ingenious contrivances to counteract lateral curvature.]

The means which Mr. Stafford employs to counteract the lateral curvature, in addition to other simple exercises intended to obviate each particular source of distortion, consist of two exercising machines, one for bringing the muscles of the weaker side into employment, and the other for straightening the spine by gravitation. The former consists of a semi-circular machine, made of wood, and exactly resembling the bottom of a rocking-horse. To each end of the machine the ends of a rope are attached which passes over two pulleys, fixed in the ceiling; the patient stands upon this machine, taking hold of the rope by each hand, and rocking herself from side to side.

The other machine, which Mr. Stafford terms the *spine elongator*, "consists of a stand from which arises perpendicularly an upright. This upright divides in the centre; consequently it is made of two parts, an upper and a lower part; the upper can be wound up as high as you please from the lower part, by a winder contained in the latter. The upper has attached to it arms to receive the axillæ, straps to cross round the body, a strap to receive the head and chin, and a bar going across the top, from which a rope hangs on each side with handles attached to it to allow the patient to relieve herself when tired during the suspension." When the patient is placed in this machine, the upper part is raised till the feet are just taken from the ground, and the spine is elongated and straightened by the weight of the body. Sometimes bags of shot may be suspended to the hips, in order to add to the weight.

In the treatment of stooping, Mr. Stafford recommends a weight to be suspended from the shoulders in the same manner as a drum is carried. He observes that the person who carries the great drum is invariably the straightest man in a regiment of soldiers. Another very good exercise, he says, would be to make the patient play the cymbals; he would thus be forced to extend his arms in the air, and look upwards, by which the head and trunk would be thrown backwards, while the muscles at the shoulders would be in constant action. To show the utility of this exercise, he refers to the two blacks who used to play this instrument at the Rotunda in Vauxhall; it would be almost impossible to point out two men who carry themselves more uprightly. *Prov. Med. Journ., March* 16, 1844, *p.* 476.

74.—TREATMENT REQUIRED AFTER THE SPONTANEOUS INTRODUCTION OF AIR INTO THE VEINS.—By JOHN E. ERICHSEN, Esq., London.

[The possibility of the introduction of air into the veins during surgical operations is now generally acknowledged, as well as the situations in which only it can happen, accurately pointed out. Mr. Erichsen in this interesting paper confines his remarks to the *spontaneous* introduction of air into the system, that is to say, when it is not purposely injected into the heart, but when it gains admittance into that organ either in consequence of one of the large veins in its vicinity being opened at a point where the flux and reflux of blood are naturally observed, or, during operations, under such circumstances, whether of disease of the coats of the vessel, of traction in the removal of tumours, or of contraction of surrounding muscles, that it forms an unyielding, uncollapsing tube, into which the air is apt to be sucked in to supply the vacuum, which the action of inspiration has a tendency to occasion within the thorax.

Mr. Erichsen, before giving his own views of the cause of death in these cases, sums up those of previous writers on the subject, which he arranges in four classes, viz:—1*st*. That death ensues from over-distension of the right cavities of the heart. Of this opinion are Nysten, Dupuytren, Cormack, Amussat, and Bouillaud (partly.) 2*d*. That death ensues from the irritation occasioned by the passage of the air through the vessels of the brain.—Bichat. 3*d*. That the heart's action is arrested in consequence of he deleterious influence of the carbonic acid which is eliminated from the venous blood.—Marchal de Calvi. 4*th*. That the circulation is arrested in

the lungs, either, as Piedagnel and Leroy have suppo
these organs becoming emphysematous, or, as Bouilla
ly) think from obstruction of their capillaries, or, a
Forbe's Journal is of opinion, in consequence of th
being interfered with.

After very ingeniously commenting on these differe
own opinion to be: 1*st*. That the primary arrest of the
in the capillaries of the lungs, or in the terminal bran
artery, in consequence of inability in the right ventr
mechanical obstacle presented by air-bubbles in the v
2*d*. That respiration and animal life cease in conse
supply of arterial blood to the central organs of the
Erichsen then proceeds to that part of the subject wh
esting to the practitioner, namely, the plan of treatme

And, first of all, as most important, let us take i
best way of preventing the occurrence of the acciden
doing so, however, it may be better, in order to under
which we should act, to give a brief summary of tho
are peculiarly apt to occasion the introduction of air in
tem during operations. Now, it is well known that
French writers the "canalization" of a vein, or its c
uncollapsing tube, is the condition of all others which
the introduction of the air into it. Indeed, except
which there is a natural movement of flux and reflu
veins, this accident cannot occur unless these vesse
other words, prevented from collapsing. This cana
may be occasioned in a variety of ways. Either the
rounded by indurated cellular tissue, which will not a
itself, but keeps it open like the hepatic veins; or th
may have acquired, as a consequence of inflammatio
a degree of thickness as to prevent their falling to
Again, the principal veins at the root of the neck have
ed out, such intimate connections with the neighbouri
tures that they are constantly kept in a state of tensi
are held apart when they are cut across. The contra
and other muscles of the neck may likewise, as Mr. S
a similar effect. In removing a tumour also, that
neck, the traction exerted upon its pedicle may, if thi
it to become temporarily canalized; and the incompl
sel, especially in a transverse direction, must neces
proximation of the sides of the incision in it, which
and gaping by the retraction of the surrounding tissu
the incision in the vein is apt to be increased by the
sarily given to the head and arm in all operations of
the shoulders and neck. Lastly, the introduction o
be favoured by the vessel being divided in the angle
being, when the flaps that form that angle are lifte
mouthed and gaping.

[In looking over all those cases in which the woun
ized, Mr. Erichsen found that the wounded vessels w
other of the above-mentioned conditions,] and conseq
geon should peculiarly guard against in the removal
neck and shoulders, viz., incomplete division of the v
ment of forcible traction on the diseased mass at the
scalpel. I am aware that, in removing tumours from
der, it is in many cases impossible to avoid drawing th
or forwards, in order to get at their deeper attachmen
cessary the chest should, for reasons that will immed
be tightly compressed, so that no deep inspirations ma
ment that the knife is being used, or before a divided
be effectually secured.

But although it be necessary for the spontaneous introduction of air into the circulating system, that the vein be either canalized in one or other of the ways that has just been mentioned, or else that it be opened where the venous pulse exists, yet it is only during the act of inspiration that air can gain admittance into the vessel; and it is the more ready to do this the deeper the inspiratory efforts are. If a vein be opened at the root of a dog's neck, it will be found that it is only during inspiration that air rushes in; that none gains admittance during expiration, and but little, if any, when the inspirations are shallow, as when the chest is forcibly compressed by the hands; and that the rapidity of the spontaneous introduction of air is, *cæteris paribus*, in proportion to the depth of the inspirations.

This is in accordance with the experiments of Dr. Carson and Sir David Barry on the influence of the respiration on the circulation of the blood, and depends upon the tendency that there is to the formation of a vacuum within the thorax, more particularly in the pericardium, during inspiration; at which time the blood is carried with increased velocity along the veins in the neighbourhood of the heart; and when expiration takes place a temporary retardation occurs. This is particularly evident during excited respiration. Now, during operations the state of the breathing is such as to dispose the patient peculiarly to the entrance of air into the veins. When a patient is under the knife, the respirations are generally shallow and restrained, the breath being held, while every now and then there is a deep, gasping inspiration, at which moment, if a vein be opened in which the pulse is perceptible, or that is canalized, air must necessarily be sucked in; and, as has already been said, in quantity and force proportioned to the depth of the inspiration. This, then, being the case, the mode of guarding against the introduction of air into the veins is obvious. The chest and abdomen should be so tightly bandaged with broad flannel rollers or laced napkins, as to prevent the deep gasping inspirations, and to keep the breathing as shallow as possible, consistently with the comfort of the patient. I have often found, as has already been stated, that the entrance of air into the veins of a dog could be arrested by forcibly compressing the chest of the animal so as to confine the respiratory movements, but that as soon as a deep inspiratory effort was made, the compression having been removed, a rush of air took place into the vessel. If, therefore, during an operation about the root of the neck or summit of the thorax, the chest be bandaged, as here recommended, the surgeon must be careful not to remove the compression until the operation be completed and the wound dressed, for if this precaution be not attended to, as the patient will, most probably, on the bandage being loosened, make a deep inspiration, air may be sucked in at the very moment that all appeared safe.

If compression of the chest did not altogether prevent the entry of air into a wounded vein, it would, at all events, tend to lessen its quantity, as well as the rapidity and force with which it would rush in; which will always be found to be proportioned to the depth of the inspirations. Thus a very material point would be gained; for it has been fully proved from the experiments of Nysten, Cormack, and Amussat, as well as from recorded cases of recovery in man, that it is necessary that a certain quantity of air be introduced before death can take place, in confirmation of the observations made long since by Nysten, that a few bubbles of air would not occasion death. Magendie states, that he has several times, while injecting medicinal saline solutions into the veins of patients, seen air introduced without any bad consequences ensuing. In order, then, that the accident prove fatal, it is necessary that a certain quantity of air be introduced into the venous system. The quantity it is impossible to determine accurately, for obvious reasons; but it may probably be stated as being equal to so much as will obstruct the pulmonic capillaries to such an extent, as that a sufficient quantity of blood to support life does not pass through the lungs. If, therefore, in the event of not being able to prevent the entry of some air into the venous system, we can keep the quantity introduced below this, we should be able to avert a fatal termination.

Different plans have been recommended by surgeons for the treatment of those cases in which air has already gained admittance into a vein; but, from the very fatal nature of this accident, it does not appear that much benefit has resulted from any of them. The recovery of the patient in some of the cases appearing to be rather due to the quantity of air that was introduced being insufficient to cause death than to any effort on the part of the surgeon. The two principal modes of treatment that have been recommended consist in the suction of the air from the right auricle, and the employment of compression of the chest.

[These modes of treatment, however, are, in many respects, objectionable.]

What, then, are the measures that a surgeon should adopt in order to prevent the occurrence of a fatal termination in those cases in which air has accidentally been introduced into the veins during an operation? Beyond a doubt, the first thing to be done is to prevent the further ingress of air, by compressing the wounded vein with the finger, and, if practicable, securing it by ligature. At all events, compression with the finger should never be omitted, as it has been shown by Nysten, Amussat, Magendie, and others, that it is only when the air that is introduced exceeds a certain quantity that death ensues. All farther entry of air having thus been prevented, our next object should be to keep up a due supply of blood to the brain and nervous centres, and thus maintain the integrity of their actions. The most efficient means of accomplishing this would probably be the plan recommended by Mercier, who, as it has already been stated, believing that death ensues in these cases, as in prolonged syncope, from a deficient supply of blood to the brain, recommends us to employ compression of the aorta and axillary arteries, so as to divert the whole of the blood that may be circulating in the arterial system to the encephalon. This appears to me to be a very valuable piece of advice, and to be the most effectual way of carrying out the first indication, that of keeping up a due supply of blood to the brain and nervous centres. The patient should, at the same time that the compression is being exercised on his axillary arteries and aorta, or, if it be preferred, as more convenient and easier than the last, on his femorals, be placed in a recumbent position as in ordinary fainting, so as to facilitate the afflux of blood to the head. The compression of the axillary and femoral arteries may readily be made by the fingers of two of those assistants that are present at every operation

For the fulfilment of the second indication, that of maintaining the action of the heart until the obstruction in the capillaries of the lungs can be overcome or removed, artificial respiration should be resorted to, as the most effectual means of keeping up the action of that organ. Thus Sir B. Brodie states that he has seen, in a dog that was beheaded, and whose cervical vessels were tied, the contractions of the heart maintained by artificial respiration for two hours and a half, at which time there were thirty-two pulsations in a minute, and, from my own observations, I can state that, by the same means, this organ may easily be kept in action in an animal that has been pithed, for an hour and a half. For the purpose of keeping up artificial respiration, the Humane Society's bellows, if they be at hand, might be used, or, if they cannot readily be procured, a split-sheet might advantageously be employed. Before inflating the lungs, it will be necessary to remove everything that can compress the chest or interfere in any way with the free exercise of the respiratory movements. Friction with the hand over the præcordial region, and the stimulus of ammonia to the nostrils may at the same time be resorted to.

The third indication—that of overcoming the obstruction in the pulmonic capillaries, would probably be best fulfilled by the means adapted for the accomplishment of the second, viz., artificial inflation of the lungs. That the action of respiration, if kept up sufficiently long, would enable the capillaries of the lungs to get rid of the air contained in them, appears to be the case, for I have several times observed that, if a certain quantity of air be spontaneously introduced into the jugular vein of a dog, and artificial

respiration be then established, and maintained for half or three quarters of an hour, but a very small quantity indeed, if any, will be found, on killing the animal, in the cavities of the heart, or in the branches of the pulmonary vessels. I am aware that this is not altogether conclusive of the fact, as the air might be dissolved in the blood, or might still exist in the capillaries of the lungs, although none might be found in the larger branches of the pulmonary artery; but still it seems to me that we can hardly account for the large quantity of air that will disappear, when artificial respiration is kept up, in any other way than that some, if not all, of it passes out of the capillary vessels into the air cells of the lungs.

It may be objected that this accident is so suddenly fatal that there would not be sufficient time allowed for the surgeon to put in practice the means just indicated; but it admits of question whether the rapidity of death in the human subject is so great as is generally stated. The anxiety and consternation produced in the bystanders by so fearful an accident as the introduction of air into a vein during an operation, makes the death of the patient, perhaps, appear more sudden than it really is; the cessation of the vital actions not being timed as in an experiment by the second-hand of a watch. In animals it frequently happens that a considerable time—half an hour or more, in some of Amussat's experiments as much even as two hours and a half, elapses before the introduction of air proves fatal. Now, although the tenacity of life may be much greater in the inferior animals than in the human species, yet in man even the length of time that has elapsed between the first entry of the air and the occurrence of death has been very considerable; thus Beauchesne's patient lived a quarter of an hour after the occurrence of the accident; Mirault's between three and four hours; and Clemot's several hours. Among the other recorded cases I have not been able to find any but vague statements as to the length of time the patients lived. Thus then, it would appear that in some cases at least, the surgeon would have ample time afforded him to put in practice the plan of treatment that has just been suggested.

If by these means we should succeed in warding off an immediately fatal termination to the accidental introduction of air into the veins, we must watch carefully for the supervention of pneumonia or bronchitis, which diseases Nysten has shown to be very apt to occur in those animals that recover the immediate effects of the accident. That the same danger exists in man is evident by the two cases that have occurred to MM. Roux and Malgaigne respectively. In Roux's case the patient lived seven days after the accident, at the expiration of which period he died of pneumonia; while Malgaigne's patient died on the fourth day of bronchitis. In recapitulation, then, the following are the principal points that it has been endeavoured to establish in this paper:—

1st. That the primary arrest of the circulation takes place in the capillaries of the lungs, or in the terminal branches of the pulmonary artery, in consequence of inability in the right ventricle to overcome the mechanical obstacle presented by air-bubbles in these vessels.

2d. That respiration and animal life ceases in consequence of a deficient supply of arterial blood to the central organs of the nervous system.

3d. That as air enters the veins in quantity, in force, and in rapidity, proportioned to the depth of the inspirations, the best mode of preventing the occurrence of the accident, or, at all events, of lessening its probable fatality, would be in all operations about the dangerous region—the root of the neck and summit of the thorax—to bandage the chest tightly with broad flannel rollers or laced napkins, so as to prevent deep gasping inspirations, and to keep the breathing as shallow as possible, consistently with the comfort of the patient.

4th. If the air have already gained admission, prevent its further entry by compressing, or, if possible, ligaturing the wounded vein by which it had entered.

5th. Keep up a due supply of blood to the brain and central organs of the

nervous system, by placing the patient in a recumbent position, and by compressing his axillary and femoral arteries.

6th. Maintain the action of the heart, by artificial respiration and friction on the precordial region, until the obstruction in the capillaries can be overcome or removed.

7th. Remove, if possible, the obstructions in the capillaries of the lungs by artificial respiration.

8th. If the patient survive the immediate effects of the accident, guard against the supervention of pneumonia or bronchitis.

Ed. Med. and Surg. Jour., June, 1844, p. 1–24.

75.—TRACHEOTOMY.—By James Arthur Wilson, M.D., Physician to St. George's Hospital.

[In two cases of cynanche which occurred to Dr. Wilson, in 1830, the patient died from asphyxia in consequence of the parts about and above the glottis being diseased—but in neither case had the diseased action extended below the level of the glottis—it terminated exactly there, so that an opening made between the thyroid and cricoid cartilages would have afforded instant and entire relief. Dr. Wilson states before the Medical and Chirurgical Society, that in consequence of these cases, he recommended tracheotomy in the following cases:—]

Mr. W. C., æt., 27, complained of a slight sore throat on the evening of July 7, 1843. He afterwards attended a crowded assembly, where he danced much and perspired freely. On his return home he was unable to sleep, from uneasiness of the fauces and a sense of choaking. At ten A. M., July 8th, he was seen by Mr. Tupper, who ordered leeches and calomel, and as no relief had been obtained, at 2 P. M. 24 oz. of blood were taken from the arm. At seven P. M. the author saw the patient, who was then lying on his back, and breathing with great difficulty; by gestures he complained of pain across the larynx; the respiration was hurried, and there was a stillness of manner expressive of a dread of all movement; he seemed, moreover, fast lapsing into a state of coma. The operation of tracheotomy was resolved upon, and at nine P. M. was performed by Mr. Keate. By an incision through the integuments, the trachea was exposed beneath the thyroid gland, and then divided vertically to the extent of one-third of an inch, and through this opening a canula was introduced. Instant relief was obtained, but before ten minutes had elapsed he was attacked with violent spasms of the chest, with a struggle for breath, as if from immediate suffocation; all consciousness directly ceased. The canula was immediately withdrawn, and the orifice in the trachea cleared from blood, and kept widely open. The breathing at length became more natural, and the face resumed the character and tint of life. Not long after this a large quantity of mucus mixed with blood was rejected from the mouth, and it was then found that the patient again breathed through the larynx, when the canula was with caution finally withdrawn. The patient gradually recovered his consciousness, and expressed by writing that his "breathing was quite easy." He slept at intervals during the night, and was convalescent from this time. Early on the following day, the voice was in some measure recovered by a low stridulous whisper. The fluids taken by the mouth reappeared on more than one occasion with bubbles of air through the orifice in the trachea. Seven days after the operation the wound was closed by granulation.

The author observes that "nothing is more worthy of remark in this case than the immediate suspension of all diseased action in the throat and larynx, consequent on the admission of air into the trachea. The strain having been removed from the inflamed structures, they soon recovered their healthy faculty of nutrition to the system at large, every draught of fresh air becoming at once specific, and the process of cure was complete." He states that, for the future he should in all cases be urgent (where delay was

possible) for a sufficient interval of time after the division of the integuments, in which to staunch the blood, before the final breach of the trachea. The instrument generally to be preferred for this purpose is the trochar, and the method of performing the operation has been fully described by Dr. John Wilson, in the 25th vol. of the Translations of the Society, in a paper of high interest, entitled "Cases of Laryngitis relieved by Operation."

Since making the above communication to the society, the author was consulted by Mr. Frogley, of Hounslow, in a case of laryngitis, in which the life of the patient was saved by the operation of tracheotomy. The case was that of a young lady, about twenty years of age, who, after suffering some days from "influenza," was attacked with symptoms of laryngitis. They were at first relieved by leeches, calomel, &c., but at two o'clock in the morning of Feb. 7, Mr. Frogley was called in haste in consequence of an attack of stridulous breathing; the pulse was scarcely perceptible; the countenance ghastly, and the symptoms generally those of a person fast dying from suffocation. Under these circumstances Mr. F. at once proceded to operate. A small incision having been made through the skin, immediately above the sternum, the subjacent cellular tissue was separated, chiefly by the blunt edge of the knife, and the trachea divided with little or no loss of blood; with some little difficulty the canula was then introduced, and immediately on the first rush of air into the trachea, the patient opened her eyes, and exclaimed, "Oh! now I can breathe." Her complexion soon resumed its natural tint, and her voice its proper intonation; she swallowed with ease and soon fell asleep, breathing tranquilly through the canula, which was secured by threads and adhesive plaster. The author saw the patient at four P. M. of that day, and found her without complaint, save a little pain from pressure of the tube, and finding that no air escaped through it he directed its removal.

On the 21st Feb., a fortnight after the operation, the author was informed that "his patient was going on well; the wound all but healed, and she had not a single bad symptom." About thirty hours after the operation, she coughed up some dense membranous-looking phlegm, after which she did not breathe through the wound. *Med. Gazette, March* 8, 1844, *p.* 476.

76.—TREATMENT OF FISTULA LACHRYMALIS BY DILATATION.—By ISAAC PARISH, M. D., one of the surgeons to Wills' Hospital, &c.

In several cases of fistula lachrymalis, which have recently fallen under my care, a plan of treatment has been pursued, differing in some respects from that generally recommended; and sufficiently satisfactory in its results to warrant a public notice.

The principle of treatment is not new; it is precisely that which is recognized by the best authorities, in the management of strictures of the urethra, by the gradual and steady operation of bougies of various sizes. The two affections are indeed very similar; in both a mucous canal is obstructed by the thickening of its internal surface, under the influence of chronic inflammation; whereby the fluids destined to pass through it, are imeded in their course. In the case of nasal duct, when the obstruction is complete and permanent, the lachrymal sac becomes inflamed, or distended to such a degree, as either to burst spontaneously, or to require an opening—thus forming a fistulous opening over the sac. The obvious indication under these circumstances, is to re-establish the passage to the nose, and thus to relieve the patient from the unpleasant consequences of a constant accumulation of fluids within the lachrymal sac. In mild cases of this description, injections into the sac and duct by Anel's syringe, the passage of probes, and the adoption of a course of treatment to reduce inflammation has been found sufficient to effect a cure. In the large proportion of cases, however, a more energetic practice becomes necessary. The course generally recommended, and practised, is to enlarge the fistulous opening, and insert in the duct the nail-headed style of Ware, which is worn by the patient, and is said to secure the passage of the tears to the nose.

Never having used this instrument, I cannot speak from experience of its merits, having always been able to effect the desired object by less objectionable means. The plan pursued has been, first to reduce any inflammation which may exist around the fistulous sore, by means of emollient poultices, and then introduce a small piece of fine wax bougie, having an acute point, down to the strictured part (or as far as it can be inserted), and by turning over its blunt end to secure it there by means of an adhesive strip drawn firmly over it. This may be removed in a day or two, and after washing out the parts, may be re-introduced, or one of a larger size inserted, if it can be borne. At the commencement of the treatment little more will be accomplished than to dilate the fistulous orifice, and to induce a more healthy action in the mucous surface of the sac and duct, but by perseverance in the plan, an advance will be made from day to day upon the strictured surface; until, finally, a bougie can be passed through the whole extent of the canal. This being accomplished, the dilatation should be continued, until the bougie will pass freely, and until all hardness and inflammation has disappeared from around the fistulous orifice—when it may be permitted to heal up, which it will usually do under simple dressings. By this process the canal is gradually dilated, and its mucous surface restored to a healthy condition, without doing violence to the parts, while the duct is placed in a condition to resume its natural functions, without the necessity of permanent dilatation. If, however, there should be a disposition to relapse, after the closure of the orifice, it may be counteracted by the use of stimulating ointments to the inner surface of the lids, by astringent washes, or by such other means as circumstances may indicate, preventing, if possible, the re-opening of the fistulous store.

Beer, the German occulist, has recommended the use of catgut to force the obstructed duct. A piece of catgut of the ordinary length and size of a small fiddlestring is passed through the duct into the nose, one extremity is brought out and fixed near the ala nasi by sticking plaster; and the other secured to the brow by a turn or two of bandage. Every day a fresh portion of catgut is drawn through, until several sizes has been made to pass, when the cure is considered complete, and the fistula is allowed to heal. A serious objection to this method is found in the difficulty of effecting the passage of the duct, at one operation, by any instrument, however fine, and should the operator succeed, the force required would be apt to tear the mucous surface and excite a degree of inflammation, very unfavourable to the ultimate restoration of the parts; whereas, by the gradual process here recommended, the difficulty is slowly overcome, while, at the same time, the diseased mucous surface is restored to healthy action, and the integrity of the canal is preserved. Indeed, one of the great advantages of the bougie made of waxed linen, is its bland and salutary action on a surface which has been thickened by chronic inflammation. This is evidenced by the increase of mucous discharge which follows its introduction, and in the gradual return of the membrane to its normal state. The same remark applies to strictures of the urethra, and hence it was that the late Dr. Physick and others preferred the bougie of waxed linen, for the treatment of stricture, to those of more modern invention. The instrument is made by dipping a piece of fine linen into white wax in a melting state, and suddenly withdrawing it. It is then allowed to cool, and cut into portions which, when tightly rolled, form a bougie, of any size which may be required. Another advantage possessed by this instrument, is, that it may be cut or bent with great ease, and be made smaller by unwrapping, without the necessity of having a greater number of sizes already prepared.

It may be mentioned, also, that this form of bougie is very useful in the treatment of fistulous sores or sinuses, where it is important to excite a moderate degree of inflammation. The introduction of a bougie of suitable size into a sinus, and its retention there by appropriate dressings, will often be found more effectual in promoting healthy action, than the use of stimulating injections, or other more violent means.—*Philad. Med. Examiner.*

Dublin Journal of Med. S., Jan., 1844, p. 516.

77.—NATURE AND TREATMENT OF PILES.—By M. Lisfranc.

Hæmorrhoidal tumours are composed of a sort of fibrous tissue, in which only a few vessels are to be found when there is no congestion; and when this exists, however violent it may be, these vessels are never so numerous as in erectile tumours. On upwards of one thousand bodies, from which I removed the rectum, and in the numerous operations I have performed, I never as yet have met with a real erectile tumour in this region. This fact renders the prognosis less dangerous, and an operation not so indispensable. It may, therefore, be concluded—1. That though, without a doubt, veins more or less voluminous may be found in hæmorrhoidal tumours, still these last are not formed of varicose veins. 2. That their composition differs from that of erectile tumours.

Let us now examine the best mode of treatment for chronic hæmorrhoids. They cause little or no pain; if they protrude when the bowels are acted upon, the patient easily reduces them himself; they offer no ulcerations or indurations. In these cases most surgeons perform extirpation, without reflecting on the danger which may follow this operation; for it must not be forgotten that it sometimes gives rise to very serious accidents. I never operate on similar occasions; and am convinced that a surgeon who cures without having recourse to the knife is far more useful than the most brilliant operator. I strive to diminish the size of the hæmorrhoidal tumours without employing the bistoury. A mild diet, gentle exercise, large or small venesections, as needed, produce generally an amelioration; when these fail, I direct, on the parts affected, a shower-bath of Bareges water, or pure water, at the temperature of 68° F. and an injection into the interior of the rectum. By this method of treatment, if I do not succeed in obtaining a radical cure, at least I soothe the patient's sufferings. If you have not the means of administering a shower-bath, and the hæmorrhoids are protruded, by passing slightly over their surface the nitras argenti, not so as to cauterize, but merely to excite them, you will often succeed in obtaining their reduction; after which, in general, they do not reappear. When the hæmorrhoidal tumours are slightly ulcerated, I cauterize them with the nitrate of silver, or the acid nitrate of mercury. If the ulcerations are inveterate, and accompanied by induration of the surrounding parts, an operation is necessary; but that generally employed, viz., to seize the tumour with *Musieux pincers*, and to cut it off, may give rise to serious and even fatal hæmorrhage. The method I would advise in such cases does not present this danger, and is thus performed:—Two semi-lunar incisions, united by their extremities, must first be made on the tumour; this is then seized, so as to prevent the parts retracting as divided; the hæmorrhoid is next extirpated, not at once, as formerly, but by small incisions, so as to permit me to tie or twist the vessels as they are cut; finally, when it is nearly removed, I seize the pedicle between the fore-finger and thumb, to be certain that no artery exists in its interior, and finish the operation slowly and carefully. A consecutive accident, very serious when it takes place, is *coarctatio recti*. In several cases Dupuytren was obliged to perform a second operation, in order to restore to the intestine its natural size, though he had employed all the necessary precautions to prevent this accident. During the first two or three days we must not introduce anything into the rectum; but as soon as the fears concerning the development of traumatic inflammation are over, we must have recourse to tents of large dimensions, and make the patient wear them constantly for at least three weeks, after which, for two or three months, he must introduce a large gum-elastic sound into the intestine every evening.

Med. Times, April 6, 1844, p. 5.

78.—NEW INSTRUMENT FOR CRUSHING CALCULI IN THE BLADDER.

[Mr. Simpson, the ingenious surgical instrument maker in the Strand, describes this instrument in a letter to the editor of the Medico-Chirurgical Review, as follows:—]

Having been applied to a few weeks back in a case where the stone was supposed to be too large to extract without first breaking it, and as the instruments that have been hitherto made have proved useless, in consequence of the difficulty, or rather impossibility of opening the blades of the forceps after their introduction into the bladder, so as to grasp and crush the stone, partly from the great thickness of the blades, and partly from their being fixed together, I have constructed the instrument described in the following lines, from which I consider it will be obvious, that as the blades are introduced separately, and the stone may be comparatively easily crushed, the important and so long desired object is at length attained, namely, of being enabled to break up a large stone, and extract it by fragments, without greater danger than that usually attending the ordinary operation of lithotomy.

This instrument, which is for the purpose of crushing calculi that are found to be too large to extract by the ordinary operation of lithotomy, consists of two strong, curved, flattish blades, rather more than three inches in length, which, together with the handles, makes the whole length of the instrument about fourteen inches. The blades are introduced into the bladder separately, so as to get round a large stone more easily. After the stone is seized between the blades, they are locked or connected together by means of a button joint, something similar to that of Rigby's midwifery forceps. They then resemble a pair of very strong, large-sized lithotomy forceps. After the blades are locked together, a flattish bar, with a small screw cut on the edges, is fixed, by means of a screw, to one side of the forceps, and passed through an opening made for it on the other. On this screw and outside the handles of the forceps, a washer is first placed, and then the handle, with the female screw, is put on the bar, and by turning it on the screw bar, the handles and blades are gradually closed together. Should the stone not be very hard, this power may be sufficient to crush it, but if not, a slide fits into an opening in the screw bar that serves to close the blades. This slide fixes by means of a screw, in the centre, according to the width the blades may be opened, and a drill is passed through the hole in the slide, (in which a screw is cut for the purpose), and also through a swivel at the lower end of the forceps, almost under the joint. A blunt gorget may be passed into the bladder, to guide the drill, and prevent its touching any part of the wound. The handle of the drill is then turned round and round, till it arrives at a stop placed on the drill to prevent its passing beyond the ends of the blades of the forceps, and injuring the bladder, thus boring away the centre of the stone, and consequently considerably weakening it. The blades may then be closed by turning the handle on the screw bar, and thus crush the stone to pieces. Should the first hole not weaken the stone sufficiently, the forceps can be opened, and the stone loosed from their grasp, and by moving the stone, and seizing it in a different position, bore another hole, but the probability is, that in most cases, the one hole would be found quite sufficient. The stone having been broken into small pieces, these can be extracted by the usual forceps or scoop in the ordinary way. The length of the incision in the bladder required to introduce and use these forceps, is not more than that usually made for the ordinary operation in the average of lithotomy cases.

There is also another pair of forceps of about the same length, but with straight blades, and made much stronger, to be used in the same manner as those already described, but so as to enable the operator to crush the stone, without having recourse to the drill at all.

Med. Chir. Rev., April, 1844, *p.* 576.

79.—DISCHARGES FROM THE EARS.—By W. R. Wilde, Esq., M.R.I.A., Lecturer on Diseases of the Eye and Ear, in the School of Medicine, Dublin, &c.

[Mr. Wilde's long paper, or rather treatise on this subject, is one of the most interesting and practical which we have ever seen. Most of the discharges from the external passage of the ear, whether of a mucous, puru-

lent, sanious or sero, or muco-purulent nature, are generally the result of inflammation.

With an organ of such great delicacy, sensibility, and vital importance, endowed with particular nervous energy, possessing peculiar vascular arrangements, and composed of so many structures in common with the rest of the body as well as those peculiar to itself—the skin, the highly organised dermal texture, with its special glandular development—cartilage, cellular, mucous, serous, and fibrous membranes, muscles, ligaments, bone, periosteum, &c., we should naturally expect that the inflammation of each of these textures would give rise to peculiar characters. Thus, with the dermal texture, we have the diffused, the erysipelatous, or the herpetic form, appearing in the auricle and external meatus, and thus producing vesicles, bullæ, desquamation, ulceration, or muco-purulent discharge, as they advance in their progress, or extend into the ear; then comes the circumscribed form, as in abscess, generally in the anterior wall and floor of the external orifice; and the purely phlegmonous kind, in both the chronic and acute form, in the more internal parts of the tube, and the surface of the tympanal membrane. Again, we have divisions into the structure or locality affected, as of the pinna or external concha; the meatus; the membrana tympani; and the inflammation of the middle ear. We really know so little of the inflammatory affections of the internal ear, that we do not deem it advisable to mix them up with the present question.

Inflammations of the auricle are generally of an erysipelatous nature, and those of the cavity of the tympanum or middle ear, when arising spontaneously and not propagated from other parts, are mostly of a diffuse character, affecting the whole mucous membrane, and ending in suppuration. We now deal more particularly with those of the external tube and external surface of the membrana tympani. I would divide these into simple acute inflammation of the meatus and the tympanal membrane, diffused over the entire of the surface, analogous to the severe catarrhal inflammations of the eye; herpetic inflammation, chiefly affecting the cuticle and ceruminous and sebaceous glands, resembling ophthalmia tarsi; simple circumscribed inflammation or abscess of the tube, occurring chiefly at its orifice, like hordeolum upon the margin of the eyelids; abscess occurring between the layers of the membrana tympani, like hypopion in the cornea; chronic diffuse inflammation of the meatus and membrana tympani, with profuse muco-purulent discharge, analogous to chronic ophthalmia; and the same symptoms attended with a granular state of the tympanum, strongly resembling the well-known granular condition of the upper eyelid, and vascular state of the cornea, assimulating pannus. To these latter may be added the same symptoms and a similar disease with polypus growing from the walls of the external tube; and lastly, chronic otitis, attended with ottorrhœa, complicated with fistulous openings of the cartilage, perforating ulcer of the tympanum, denudation of the ossicula, and polypus or fungus of the middle ear or drum; and caries of the bony parietes, and the mastoid process.

[Up to a recent period we possessed no better means of examining the external meatus and the membrana tympani than the common ear speculum. Kramer, of Berlin, has since made use of an argand lamp for the purpose of throwing a strong light into the ear. In form, construction, and effect, it very nearly resembles a common magic lantern, consisting of a tin box, having its interior blackened, and being provided with a strong lamp and powerful reflector, opposite which there is a tube containing two convex lenses, each two inches and a half in diameter. But all artificial light has one great objection attending it when examining those conditions of the parts, as in inflammation, &c., where colour and the vascular arrangement form the chief means of true diagnosis. The instrument which is now generally used to examine the external passage of the ear, is a conical silver tube, highly polished inside, by means of which the light can be most beautifully thrown to any part of the meatus.] We have already

stated that most discharges from the external ear are owing originally to some inflammatory action, produced, perhaps, by cold, porrigo, crusta lactea, herpetic and other eruptions, extending to the ear, hardened wax, fevers of every description, especially the exanthemata, and scarlatina, or, finally, by some malignant disease of the petrous portion of the temporal bone itself.]

With regard to the treatment of ottorrhœa, it is scarcely necessary, after what has been already advanced upon the subject, to state, that our first step must be to examine minutely the condition of the external auditory canal, by syringing out the part with tepid water, and then submitting every portion of it to the action of a strong light by means of the tubular speculum. In the early stage, and the mildest form of this complaint, all that we may be able to discover is a vascular, slimy condition of the lining of the whole tube and external layer of the membrane of the drum, which is thickened and opaque, and having almost invariably a fasciculus of red vesicles coursing along the line of the malleus.

In the state of simple ottorrhœa, I generally paint over the surface with a solution of nitrate of silver, the strength of ten grains to the ounce, applied with a fine camel's hair pencil, which I find far preferable to the old practice of dropping in the solution; first, because by thus rubbing it on the parts, some more and some less, according to their condition, it removes a quantity of the mucous discharge which adheres with great tenacity, and thereby makes its effect more certain; secondly, it may be required only to one particular spot; and thirdly, by this method, the concha, external parts, and, as it sometimes happens, the dress also, are no blackened by it. This application is repeated about every third day, and, in the mean time, the ear is syringed night and morning, and even oftener if the discharge accumulates, with plain tepid water, and a gum-elastic bag, which, when used by friends, or attendants, or the patient, is much preferable to the usual piston syringe; and at night a slightly astringent lotion is dropped into the ear till it fills up the meatus, allowed to remain there for a few minutes, and then let run out.

The various salts which enter into the general composition of eye collyria are here particularly applicable, especially those of lead, zinc, and copper. I generally prefer the former, either in the state of acetate of lead, from eight to twenty grains to the ounce, or what is a much more elegant preparation—

Liq. Plumbi Diacet. ʒi. et Aquæ. Rosarum ℥i.

I do not think the present officinal solution of lead is as good or efficient a preparation as the "Extract of Litharge," of the old pharmacopœias. When zinc or copper is employed, the preparations I find most suited are the Liq. Aluminis Comp and the Aquæ Sapphirinæ, or Liq. Cupri Ammonia-sulphatitis, in like proportions with the lead lotions. Where the discharge is fœtid, the chloride of lime lotion used in the morning is of use, being slightly astringent, and getting rid of the disagreeable smell.

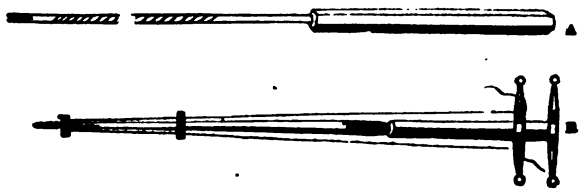
With regard to cleanliness, or, in other words, to syringing, so very much depends upon it, that the surgeon never can sufficiently impress its importance upon the patient or the attendants. In simple mucous discharge without polypus, granulations, or affections of the deep-seated strictures, it is the chief part of the treatment; and yet how difficult to have it performed regularly! Allowing the discharge to accumulate in the meatus is undoubtedly one of the principle causes that perpetuates ottorrhœa in any of its forms. When the meatus becomes a secreting cavity, it in many respects resembles a fistula, and the longer it has existed the more difficult it is to heal; and this, its fistulous character, it is, which, especially in a narrow meatus, promotes the continuance of a slight thin discharge, even long after the granulations or other producing causes have been removed. The action of the external air, therefore, upon this secreting surface, similar to what is experienced in health, can never be too much observed.

Towards the close of an ottorrhœa from simple chronic otitis, especially

in children, I have frequently remarked, that they are liable to slight fresh attacks of otalgia, and sometimes small abscesses form round the mouth of the meatus. These are, I believe, best warded off by the application of a vesicating liniment behind the ears on the mastoid process, and keeping up this gentle counter-irritation for some little time after the ottorrhœa has ceased. For this purpose the croton oil dissolved in soap liniment, or the tincture of iodine, made stronger and more soluble by the addition of a little hydriodate of potash and the *Acetum Lyttæ*, answers very well.

The complications that render otorrhœa at all times tedious, but now difficult to heal, are morbid vascular growths; of these, granulations covering over the face of the membrana tympani are a frequent cause. In such a case the bottom of the auditory tube will appear as red and vascular as a granular eyelid, and it becomes an object of interest to know whether it is the surface of the membrane or the inner wall of the tympanum that we see. A simple inspection, by means of a strong light, will generally determine this, for although the greater portion of the membrane of the tympanum may be destroyed, and even the incus or orbicular bone has been cast off, still the malleus in the great majority of instances remains. A fine probe fitted into a handle will often by one touch determine whether we are percussing a thickened membrane on the promontory of the middle ear; making the patient press the air through the ear, by holding his nose and shutting his mouth, and then making a forced expiration; or again, by the fluid of the injection passing into the throat, we may judge of the perforated condition of the membrane. But as it often occurs in ottorrhœa, or where the cavity of the tympanum is exposed, that the Eustachian tube is likewise blocked up with granulations, or closed by inflammation, those two latter methods are not always applicable. In the latter case, injecting fluids through the Eustachian tube is likewise inapplicable. In most instances, however, the practised eye can at once determine the condition of the parts. Many persons who have moderate-sized apertures in their tympanal membranes can, by pressing the air through the Eustachian tube, produce a whistling noise.

Wherever the granulations grow from, whether from the membrane itself, or from the walls of the tympanum, the means I find most useful for their eradication is the solid nitrate of silver rubbed over the part about every second day, or oftener if necessary, and for this purpose I have for some time past employed the little instrument marked A, and represented in the accompanying wood cut:—



This is five and a half inches long; it consists of a silver tube cut spirally for three-fifths of its length, and having an aperture in the side near the extremity. In using this *port-caustic*, a little nitrate of silver is melted over a lamp, in a small platina ladle, and then, when about cooling, the end of the *port-caustic* is dipped into it till the aperture and extremity are filled and coated over with the caustic. The elastic spring of this instrument, while it prevents any injury to the ear, from the starting of the patient, can also be bent, so as to be applied with ease on any part of the auditory canal, and the caustic can in this way be reduced to a finer point, and made more secure, than by any attempt at fixing in a portion of the solid material. The caustic should be rubbed over the part about once in every two days, and in the mean time the syringing, the astringent lotions, and other applications

recommended in the the treatment of simple otorrhœa, from chronic otitis, should be strictly enforced.

Three cases of this description have just left my care cured. Two of them were little girls, one aged eight the other six; in both the discharge appeared on the subsidence of scarlatina three years and a quarter ago, and continued without intermission ever since, it was daily increasing in quantity and consistence, after attacks of pain, to which they were subject on catching the slightest cold. I was consulted for both cases the same day, now nearly three months ago. The hearing was considerably impaired, the otorrhœa was double in both cases; the discharge profuse, highly fœtid, and in one instance sanious. In general health both were to all appearance well, and both had gone the usual round of sea-bathing, country air, aperients tonics, &c. In both, the apertures of the meati were thickened, and the concha crusted and excoriated by the discharge. In both, the passage was free from excrescence, and although the lining membrane was turned into a mucous and secreting surface, the bony case of the ear and mastoid process appeared sound. Both tympanic membranes in both children were red, vascular, lost, and in part gone. The nitrate of silver was applied in solution with the pencil-brush to the membranes of these children, till it completely whitened the surface, and repeated every fourth day for the first month, then once a week, and latterly the solution has been applied with the brush occasionally. In the meanwhile strict attention has been paid to have them syringed twice a day, for strange to say, although they are in the upper walks of life, the most that was ever done was to soak up the discharge with the towel when it became offensive. At night dropping in the lead lotion—never allowing the discharge to accumulate—taking plenty of open air exercise, making use of a nutritious diet, and taking occasionally, particularly when any pain was felt in the ear, a few grains of the "grey powder" (Hydr. c. creta), with a little rhubarb. After the second application of the caustic, the running was checked; its consistence then became thicker, more ropy and mucous, less purulent, and greener in colour. Hearing daily improved but towards the end of the sixth week, when the discharge had nearly ceased entirely, both these children were attacked with pain in one ear, and a slight increase of thin, watery discharge. A leech applied over the tragus of each ear, and the use of the aperient powder, soon afforded relief. In one of these children the skin of the meati became affected, but both are now perfectly well; the membrana tympani is, it is true, white and thickened, but the hearing is in both nearly as good as ever it was before the attack of scarlatina. In one of these girls, touching the membrana tympani with even a hair pencil, always brought on a violent fit of coughing.

The last cause and complication of otorrhœa is what I have throughout this paper denominated polypus. Fleshy, pedunculated, morbid growths in the ear, nearly colourless, having a thin cuticular covering, unattended by pain, not appearing as the result of inflammation, and unaccompanied by discharge, I have seen, but such cases, in comparison with those to which I have so frequently alluded, and am now about to describe in detail, are extremely rare. Throughout this essay I have constantly employed the terms fungus and polypus as indicative of those morbid growths, the product of inflammatory action and long-continued otorrhœa. By fungus, however, I particularly allude to those vascular and granular masses which generally grow either from diseased bone, or upon the destruction, in the whole or in part, of the membrana tympani, and whose attachments are to be found principally in the very bottom of the auditory passage; while polypi are, for the most part, confined to the glandulo-ceruminous portion of the tube, and are attached by narrower roots than the fungi. It is stated in books that polypi are smooth on their surface, while fungi are lobulated. Here, however, is a very good specimen of a polypus removed from the posterior wall of the glandular portion of the meatus presenting such characters. In many instances polypi may be co-existing with granular tympani or fun-

gous masses proceeding from the middle ear. Generally the polypus grows more externally, that is, appears at the external orifice, while the fungus is mostly confined to the bottom of the tube. The latter, may, however, appear externally.

[In a case of this kind a highly vascular fungous mass was found completely filling up the middle of both meati, which were extremely thickened and narrowed. Those at first seemed to be polypi, but upon closer examination they did not grow from any particular part of the wall of the canal, but appeared to proceed from the membrana tympani]

The nitrate of silver, in substance, was applied to these growths, about once in every four days for upwards of six months, till they were completely reduced to the level of the tympanal membrane, which was found to have a large perforation in its centre on both sides, through which the fluid injected passed into the pharynx. At this period the discharge considerably lessened, and the power of hearing very much increased: upon examination with the speculum, the auditory canal still presented a whitish thickened appearance, and the membrana tympani, with the aperture in its upper or anterior section, was still red and villous; from this time forward the use of the solid caustic was omitted, and the solution was applied instead, in the manner in which I have described in similar cases; while lead and chloride of lime washes, with constant syringing, were never omitted.

For the removal of the polypi and other fungous growth, various mechanical means have been devised in the shape of forceps and ligatures, &c. Without entering into a historical description of all these, it is enough to remark, that they were insufficient for the purposes for which they were invented; the former, owing to the brittleness and vascularity of the substance they were intended to grasp, and the latter from the difficulty of applying them with accuracy to the root or foot stalk of the morbid growth.

The instrument of greatest value for the removal of aural polypus from any portion of the meatus, is the small snare-like apparatus represented by figure E, consisting of a fine steel stem, five inches in length, with a moveable bar sliding on the square portion towards the handle; in a properly constructed instrument, the small upper extremity, flattened out and perforated with holes running parallel with the stem, should not exceed the fourteenth of an inch in its greatest diameter. A fine silver, or what is much better, from its greater flexibility and strength, a fine platina wire, with its extremities fastened to the cross bar at the handle, passes through the holes in the flattened end of the small extremity of the instrument, and allowed to be of such a length, as, that when the bar is drawn back close to the handle, this ligature is put fully on the stretch, and drawn tight through the holes at the small extremity. In using it, the cross bar is pushed forward and a noose made of the wire at the small extremity, of sufficient size to include the morbid growth, which it is then made to surround, and toward the root of which it is pressed by means of the stem; the cross bar is then drawn up smartly to the handle, and it never fails of either cutting across or of drawing with it whatever was included in the noose. Some bleeding generally follows, which should be allowed to subside, then syringe the parts with slightly tepid water, and again examine the ear, and if possible discover what portion of the polypus may remain, which, whether it may be the mere point of attachment, or a portion inaccessible to instruments, should be invariably touched with the armed *port-caustic*, and the same application applied from day to day until all traces of the morbid growth are vanished. Unless this latter point of practice be strictly and perseveringly adhered to, it is in vain that we can expect a total eradication of the disease; no more, however, of the auditory apparatus should be submitted to the action of the caustic than the actually vascular, granulating, or fungous surface. I have frequently witnessed the whole canal in a state of ulceration, and an erysipelatous inflammation extending over the entire auricle, from a large stick of lunar caustic having been inserted into, and rolled round in the meatus to remove a polypus or fungus growth, the eradication of which had already

been frequently attempted by instruments; a practice as cruel as it was ineffectual.

The little instrument which I have represented in the wood cut, and just detailed, and which may be denominated a snare, will be found useful in other parts as well as the ear. For the principle of it we are indebted to Mr. William Robertson, one of the surgeons to the Kelso Dispensary, who published a drawing and a description of such an instrument, "*for extracting polypi from the nose*," in the "Edinburgh Medical and Surgical," for 1805: and it was first introduced into practice in this country two years afterwards by my friend Dr. Little, now Surgeon to the Sligo Infirmary. Mr. Robertson never applied it to the purpose of aural surgery, for which his apparatus was far too large; but he certainly deserves the credit of the originality of the invention. It has now been in general use for some time past in this city for the removal of nasal polypi, for which it is most admirably adapted.

In Retrospect, Part VIII, p. 152, we referred to Professor Rosa's operations on the eye without duly acknowledging the work from which the article was extracted. This was quite an accidental omission, as we are most anxious, at all times, to give praise wherever it is due. We may therefore state, that it was extracted from an account of Ophthalmic Surgery in the Australian dominions, by W. R. Wilde, Esq., the same gentleman who has written the above able article.]

Dublin Journal of Medical Science, Jan., 1844, *p.* 388.—444.

80—TREATMENT OF STRICTURE.—By B. Phillips, Esq., F. R. S, &c., &c.

[We need hardly say that 98 cases of stricture out of every 100 are owing to gonorrhœa, and are the result not so much of the acute stage as of long continued chronic action, which usually affects the urethra near its curvature. The diminution of the stream of urine may be so gradual that it is not at first perceived; at last, the contraction, slowly as it grows, prevents the bladder from completely emptying itself, because the bladder, like every other muscular structure, is incapable of continued action beyond a certain time; that time is long enough to allow of the complete evacuation when things are in a natural state, but when the bladder is allowed to get too full the expulsive action is frequently not sufficiently sustained for the escape of all the contents. So when the canal of the urethra is made smaller than natural, a similar result follows. In this state of things a certain portion of the contents of the bladder are constantly retained, and the desire to make water becomes in consequence more frequent. Instead of lying in bed from night till morning, the patient is disturbed once or oftener in the night, and then he goes to his medical man. Not, perhaps, because he thinks he has a stricture, but because he has a little annoying discharge, and a frequent desire to make water. To the medical man the history of the case seems to point clearly to stricture; but he does not pronounce a positive opinion until he has passed a bougie along the urethra.

In many cases, however, we are not consulted until the stream becomes extremely small; or even until the urine dribbles away drop by drop, with a constantly recurring desire, with, perhaps, the parietes of the urethra behind the stricture giving way, to be followed by urinary abscess and fistula, or with some damage done to the prostate, the spermatic organs, the bladder, or the kidney. In this state complete retention is always impending; any slight irritation may cause the complete blocking up of a passage which before was barely pervious. In the treatment of stricture it is an important fact to ascertain whether the patient is labouring under complete retention, or whether he can make water in small quantities at a time. In the former case there is no time to lose, and the most decisive steps must be taken; in the latter case we may proceed to adopt our measures more leisurely. If the patient can make a little water, our attention is directed to make the passage larger; and for this purpose two agents have been chiefly depended upon, viz., *dilatation and cauterization*.]

Now let us see how these agents act; let us endeavour to estimate their relative value in cases such as we are now treating of; and let us begin with *dilatation*. As a certain portion of water will dribble away, no violent means are necessary: neither is it imperative that the obstacle should be overcome at once. You, must, therefore, be content to try mild means. The common plan is to pass a bougie to the part and insinuate it into the stricture, but as this is often not practicable, much unnecessary poking follows, and the evil may in this way be rather increased than lessened. You may have been accustomed to see me pursue a different course, and I need hardly say, that I think it a better one. In two of the cases you have just seen, the strictures were so narrow that the smallest size elastic gum instrument did not penetrate into them; still you see that one of the patients can himself already pass a No. 10 bougie into the bladder, and I trust the other will be able to do so in a fortnight. In all these cases I use a moderate-sized instrument; I pass it down to the contracted point, and I direct the patient to keep it firmly in contact with the stricture for an hour, if he can bear it without much discomfort; if not, for a shorter time. In some cases, by the end of an hour, the instrument will pass on to the bladder: in others it has to be repeated three, four, five, or six times, before the obstacle is passed: there are cases where even a longer time may be necessary, but usually if properly done, half a dozen sittings will enable you to get through the majority of cases. When your instrument has passed through the stricture the remaining treatment is usually easy, but there are certain things to be borne in mind: do not be in too much haste, do not introduce the instrument too frequently, do not enlarge the canal too quickly. You may find the urethra become too sensible to allow of your going on, many days may pass before you can prudently use it again, and when you do you will find the parts resuming their former state.

Some persons regard the bougie as a *curative* agent in stricture, under ordinary circumstances. I do not think so; I always recommend a patient who has suffered from permanent stricture, and whose urethra has been made free by dilatation, to watch narrowly the size of the stream of water, and even though he may not observe that it is lessening, he will do well to pass a bougie himself, from time to time, to assure himself that the canal is kept free. The frequency with which it should be done must depend upon the case; one man will find it necessary to do it once a-week or oftener; another will let one or more months pass without finding the introduction of a bougie necessary.

As to the treatment by dilatation, it is certain that bougies may be used with less pain and danger than any other agent we can employ; they adapt themselves more easily to the curvatures, and excite less irritation, than metallic instruments, and the good is gradually achieved. The important question, at last, is this: do they merely act like a wedge, simply pushing the sides of the canal apart, and flattening any projections which may be found there? or do they cause the entire removal of the morbid product which constituted the stricture, so as to leave the parts in a natural state? I cannot doubt that, occasionally, a perfect cure is accomplished by the use of bougies; but it is difficult to say what was the exact condition of the parts in those particular cases. It is a notorious fact that, commonly, a permanent cure is not effected, and that the necessity for occasionally passing a bougie remains. I come, therefore, to the conclusion that the pressure of a bougie is, in a large proportion of cases, insufficient to procure the removal of the indurated matter causing the obstruction. Still, when dilatation is discreetly employed, the relapses are much less frequent than when it is imprudently employed. It is unwise to dilate too rapidly; whenever you do so, the return of the trouble is prompt also. You may, in the course of forty-eight hours, pass a No. 12 bougie into the urethra, which, two days before, would not admit a No. 2. This mode of proceeding is objectionable for two reasons: you are treating the urethra as an inert canal, you may induce in it very troublesome inflammation, and by the end of a

week you may be prevented from proceeding further, and in another week the evil may be more serious than when the treatment was commenced: the indurated matter was not absorbed, but only put aside. The prudent plan I conceive to be what you see employed here. Do not irritate the part by poking against the stricture a small bougie, which at last will perhaps not penetrate, and you make matters worse. Introduce a moderate-sized bougie, keep it firmly and equably supported against the obstruction, let it remain there as large a portion of an hour as it can be borne without inconvenience. If it will not pass on by that time, remove it; and if the urethra be in a quiet state, you may repeat the operation on the morrow, always letting the instrument remain in the canal as much as a quarter of an hour if there be no discomfort; if the patient complain of tenderness, you may let one, two, or more days pass before you subject your patient to a second attempt. In this way you proceed until the instrument passes on; you then gradually enlarge your instrument; and you must be guided as to the frequency of the introduction by the state of the canal. If the treatment can be borne every day, there is no reason why it should not be followed up; if the sensibility be excited, you may do it every second or third day. When the canal is dilated sufficiently, you then lengthen the interval; at first you make it a week, then a fortnight, a month, and even longer; but ultimately the period of introducing the instrument must depend upon the tendency to contraction which may be manifested. You should, when the canal is free, teach a patient (unless you fear to trust him) to pass the bougie himself. If he be a private patient he will find that it can be passed most easily before he gets up in the morning. So much I may say, that the relapses after the treatment of bougies are more manageable than those which follow cauterization or scarification.

Again and again *cauterization* has been proposed as *the* means of curing stricture of the urethra; still, at the present moment, it is little used in this country. This must be owing to one of the following circumstances:—Either the application of the remedy is difficult, the inconveniences attending upon its use are real and established, or the cure is not permanent. Many different caustic substances have been used, but at present it is upon the nitrate of silver and the caustic potash that most reliance is placed. Whatever caustic is used, the intention with which it is usually employed is to destroy the indurated matter which constitutes the obstacle. Then, again, as to the mode of applying it; by some it has been sought to bring it in contact with the interior surface of the stricture; others have been content to apply it upon the anterior surface. We will now inquire, first, as to the practicability or prudence of *destroying* the morbid product; secondly, into the *mode* by which the caustic can be best employed; thirdly, whether, when used, *the cure is permanent.*

It is now a well-ascertained fact, that the mucous surface itself is not much changed at the contracted point; that the indurated product is fairly and altogether outside of the mucous surface, very much limited to the submucous tissue, but continuous with the adherent portion of the mucous tissue. Now, if that be, as I believe it to be, a well-established fact, it follows that, if destruction be carried on to the extent intended, there must be complete destruction of the entire thickness of the mucous membrane. In that case I apprehend a cicatrix would follow, which would occasion a contraction much more difficult to overcome than that to which it has succeeded. Although I by no means deny that the whole thickness of a mucous membrane may be destroyed by caustic, yet it is much less easily accomplished than may, at first sight, seem possible. I have many times applied lunar caustic upon the mucous membrane of the vagina, but I have never destroyed the membrane by it so as to get a cicatrix.

If you apply it again and again to the mucous membrane of the cheek, you will find you make very little progress, and I apprehend that in the common run of cases in which caustic is applied to the urethra, the continuity of mucous membrane is not destroyed; the morbid product outside of

it cannot therefore be destroyed. Eschars are no doubt formed and thrown off, but they make little impression upon the membrane of the urethra. It is unquestionably true that in twenty-four hours, or even much less, after the application of caustic, the patient may make water better than he did before the operation; but this is not because a part of the obstacle has been removed, for by that time the eschar is not come away, but because the morbid sensibility of the part is for the moment extinguished, and the urine passes over the point without exciting the parts to contract. I apprehend, therefore, that in the majority of cases, the improvement which is often observed is owing much more to the extinction of irritability than to the destruction of the tissue. At the same time, a dilating instrument, a bougie on the one hand, a porte-caustique on the other, is kept steadily in contact with the part, and in the end the obstacle is passed.

For a long time caustic was applied to the anterior part of the stricture by means of the armed bougie; and when we know that it has been applied to a single stricture as many as two hundred times, we may readily admit how little destruction of tissue must follow each application. In all cases it is likely to act on the healthy tissue, and to cause accidents, among which tumefaction, threatening retention and hæmorrhage, were not the least frequent. The evils of this plan were long felt; at last it was proposed to avoid them by carrying the caustic fairly within the stricture, and applying it there, as it were from within outwards. From this method of applying the caustic much was expected; its action was to be confined to the morbid growth, and when the first eschar was thrown off, the opening was to be enlarged by so much. The objection to this plan is, that if you have to treat a close stricture, you cannot get your caustic into it; you must first enlarge the opening by bougies before you can use the caustic; and when so much has been done by bougies, it may be asked, why not go on with them?

Now let me say a few words on the relative advantages of dilatation and cauterization. There was a time when I felt a strong conviction that caustic was the most certain curative agent in the treatment of stricture; a longer experience has satisfied me that that conviction was not well founded. I believe we know no means of effecting a permanent cure of advanced cases of stricture, but I think the best means we possess is the prudent employment of dilatation. You can always make the canal free by this means; and although it will commonly manifest a tendency to contract anew, yet the occasional introduction of a bougie may prevent this disposition from proceeding so far as to cause inconvenience. I do not doubt the cures that have been attributed to caustic; but in my opinion they have been mainly owing to the dilatation exercised by bougies and port-caustiques employed in the treatment. I apprehend the good derived from the use of caustic is owing to the modification of the sensibility of the canal, which has allowed of a more unreserved use of dilating bodies than could have been had without it. It is possible that the irritation of the caustic may do something towards exciting the absorption of the morbid product, and that which the bougie could not do alone might be effected by such an association. Still it must be admitted that, whether each plan be used alone, or whether they be employed in combination, the tendency to contract anew is commonly observed, and is best arrested by the occasional use of the bougie.

[The preceding remarks are made with reference to those cases where the stricture is not complete. In other cases, however, the stricture is so great as to cause complete retention of urine, when the pressure and irritation are very serious; the posterior part of the canal, that behind the stricture, may become dilated even to the size of an intestine; and indeed it has been proposed in such cases when there is complete retention, and when no instrument can be passed along the urethra into the bladder, to puncture the urethra at this point instead of puncturing the bladder.]

When the urethra becomes thus dilated, the neck of the bladder loses its power, and the urine will then dribble away through the stricture; the mu-

cous membrane suffers: it becomes affected with chronic or sub-acute inflammation, and may give way so as to allow of the escape of a small quantity of urine into the cellular tissue, in which violent inflammation is quickly set up; but it almost always determines in sloughing of the cellular tissue, with which the urine gets in contact, and most serious mischief ensues. If the quantity of urine which escapes be considerable, it may infiltrate a great extent of cellular tissue, even passing to the inguinal and inferior abdominal region. In these cases a knowledge of the anatomy of the aponeurosis or fascia of the perineal region enables you to determine the probable point of the urethra which has given way, and also guides you as to the depth of your incisions to facilitate the discharge of the extravasated fluid; for in all such cases the first point is to get rid of the irritating fluid, and this can only be done by giving it the utmost possible facility for escape. In some cases, where the quantity of urine which has escaped into the cellular tissue is small, the symptoms and the consequences are much less serious; a few drops only have passed; inflammatory action may be set up around, so as to form a kind of sac, and prevent further infiltration. After a time the patient may direct your attention to a small, pretty well defined tumour in the perineum; you puncture it, and a little pus, mixed with urine, escapes. The cavity being lined by a membrane something like that of an ordinary canal, the opening manifests no disposition to close, and a very little urine may pass along it whenever the patient tries to empty the bladder. In many cases it will close when the urethra is restored to its proper size; in others it obstinately remains open. In all such cases there is reason to fear that a certain portion of urine will pass along this fistulous canal at each attempt to make water; and to prevent this, either a catheter must be introduced whenever the patient desires to make water, or the instrument must be retained for some time—until, indeed, we have reason to think the accidental canal is closed. In some cases the constant presence of an instrument cannot be borne; and, indeed, it tends to keep up irritation in the fistulous canal. If this be so, it may be that the patient will be less irritated by introducing the instrument whenever he wants to make water. Even when no urine passes along the fistula, it sometimes resists all attempts to induce it to close.

In advanced cases of stricture the bladder does not long escape. The contained urine is expelled by a very attenuated stream, and the bladder is not emptied because the contraction cannot be maintained long enough to expel the whole; the desire to make water becomes more and more frequent, but the quantity passed is lessened. The muscular fibres of the bladder, so incessantly called into action, increase in size, and the cavity becomes smaller. The evacuation being at each effort incomplete—the composition of urine undergoing a corresponding change, becomes more and more acrid—it irritates the mucous membrane, and induces a secretion from it, which is deposited as the urine cools; and in aggravated cases it may amount to half or two-thirds of the whole of the fluid evacuated, but it does not adhere to the vessels. If the urine be alkaline, the deposit becomes ropy, and clings closely to the containing vessel. You have seen several cases in which the deposit presented this appearance.

After a time the irritation may extend to the ureters and the kidneys. In some cases, in consequence of the constant state of distension of the bladder, the ureters become greatly dilated; the pelvis of the kidney may participate in this dilatation, and the kidney is not long proof against the consequent irritation. It becomes greatly congested; heavy lumbar pain is experienced; and abscess or other complication may be the consequence.

Med. Gaz., Dec. 1, 1843, *p.* 259, *and Dec.* 15, *p.* 321.

81.—EFFECTS OF CHLORIDE OF ZINC AND CHLORIDE OF LEAD IN CANCER.—By E. W. Tuson, Esq., F.R.S., Surgeon to the Middlesex Hospital.

During the progress of my investigation of cancerous diseases, my attention has been directed, in many cases, to the effects of certain preparations

of chlorine, either in arresting the progress of this malignant disorder, or having a powerful influence over it: and this has induced me to employ various combinations of chlorine in their treatment. The results (from time to time) will be brought before the public, and although the use of a paste, made with chloride of zinc and flour, as an external application in an ulcerated state of cancer, is well known, I am induced to believe the profession are not so well acquainted with the administration of this remedy internally, and also with the effect of chloride of lead, and that the following cases may prove interesting to some of my readers.

Case 1.—Anne Scammel, ætat. 39, a cook, was admitted into the Middlesex Hospital, under my care, Nov. 12, 1839, with an extensive cancerous disease of the right breast and neck, occupying the space between the lower border of the inferior maxillary bone and the under part of the pectoralis major, and from the sternum internally to the whole of the superior extremity on the outer side, so that the disease involved nearly one-sixth part of the body. She stated that the glands in the arm-pit first became enlarged, and she fancied that the swelling arose from cold, about three years previously; that it had gradually increased since, affecting at first the breast, producing great tumefaction, and afterwards the whole arm, which became so much swollen that she could scarcely use it, or bring it to her side. An irregular ulcer extended from below the nipple towards the axilla, its surface being superficial, and its edges hard. The whole of the parts enlarged were very firm; pressure with the finger on the arm or back of the hand, produced little or no indentation. The glands below the jaw and above the clavicle were greatly enlarged, and the general hardness in the neck was so considerable that the clavicle could only be distinguished by a very diligent examination. The treatment consisted of dressing the ulcerated surface with the white precipitate ointment, and she was ordered to take a pill three times a day, composed of five grains of extract of hemlock and one of opium, and a night draught of tincture of opium, in camphor mixture. This plan was continued, with little variation, for about two months, without any beneficial effects either to the ulcer or the disease, which increased, and appeared of a very malignant character. The swelling of the arm continued, notwithstanding the use of flannel rollers. In January, 1840, a paste was directed to be applied to the ulcerated surface, made of one part of chloride of zinc, and three of flour; this was well mixed and moistened with water, and then applied over the whole of the ulcerated parts. The first application was ineffectual, so that it was used again, when also it was resolved to give the chloride of zinc internally. Half a grain was ordered every morning in a wine glassful of carraway water to be taken after breakfast. A lotion was directed to be applied to all the hardened parts, made of one drachm of chloride of zinc to a pint of water. The application of the paste a second time produced great pain for four or five hours, when a slough was formed, which separated with the assistance of a poultice, and afterwards the ulcerated surface healed kindly. The swelling in the arm gradually subsided, the breast diminished considerably, and that side of the neck assumed a more natural appearance.

In a month from this time the case had completely changed its character. The arm was now of its natural size; the breast was soft, as also the neck, and every part of the superior extremity. In several places there were small tubercles, some of the size of a pea, others a little larger; some were irregular, others small and circumscribed: there were six or eight at different places over the mammary gland, one or two in the neck, and one in the arm between the deltoid muscle and pectoralis major; they appeared to be enlarged lymphatic glands. The disease had now changed its character, and assumed the cancerous tuberculated form. The wound had completely healed. The medicine was continued for upwards of two months, the dose being increased to three quarters of a grain. She complained of the draught being very unpleasant, tasting like metal, and leaving the roughness in the mouth for some time afterwards; one morning she took it before her

breakfast, when it made her very ill and uncomfortable, causing severe spasmodic pains in the stomach; she was desired never to take the draught on an empty stomach, but to continue it regularly after breakfast. At the early part of April further improvement had taken place in this patient; the disease had been allayed to a considerable extent; she suffered no pain, felt in good health, and all tokens of disease had disappeared with the exception of the little spots. The arm, the breast, and that side of the neck, were in the same natural state as on the opposite side; she slept well, enjoyed her diet, walked daily out in the garden, and when any inquiry was made as to the state of her health she expressed herself confident that in another month she would be able to leave the hospital quite cured. Few people who had seen her at her admission would have believed she was the same patient, such a change having been effected by the medicine. This favourable change lasted only a short time; at the end of April the mouth and gums became sore, so much so, as to cause the medicine to be discontinued. Soon afterwards the arm began to swell again, and the breast became tender and painful. An ulcer appeared at another part of the mammary gland, which was healed by the application of the paste, when other ulcers were formed, which also healed by the same means, until at last the paste lost its influence, and the disease made rapid progress in spite of all remedies. Morphine and opium gave her a few hours sleep, but the cancer progressed, and she died on the 7th of Jan., 1841.

This case illustrates the peculiar effects of the chloride of zinc in this cancerous disease, its influenee upon the system, affecting the mouth and gums; and further observation may show some other effect of this preparation. It cannot be doubted that its external use is beneficial in healing open cancer, which I have succeeded in doing four or five times successively in several cases; and this should induce us to watch its effects, administered internally, in diseases of this character. A solution of one drachm to a pint of water injected upon a cancerous ulcer, or applied with linen rags, will be found a very useful application. Other preparations of chlorine have an influence over cancerous affections—chloride of lime; chloride of lead; ter-chloride of carbon; perchloride of copper, &c.; and a case has been described to me of a lady completely healing a large open cancer by the application of common salt (chloride of sodium) From my observation on the effects produced by the exhibition of various combinations of chlorine, I am perruaded they have a very powerful influence over cancerous diseases; and I fully intend to investigate this subject, to combine two or more of these preparations, as well as to employ other new chlorides (which I have ready) internally; for it must be confessed by all conversant with the nature of these diseases, and with the pathological appearances seen in most cases, that they can only be counteracted by affecting the system, and thus acting on the constitution generally, and not by local application alone. Should a cure hereafter be found out for these inveterate diseases, it must be by internal agents, counteracting some peculiarity in the system, permitting certain parts to be affected by this disease, or some morbid defect in the nervous system, so that the natural and healthy structure of the component parts of the animal texture are no longer preserved, but sink into this peculiar state of disease. The nature of cancer and its structure generally has been fully studied during a long period, and at present little useful knowledge as regards the treatment of the disease has resulted from the investigation, either by entering into its first formation, growth, or chemical composition. In forty cases I have noticed a trifling point (which may be fallacious, however); inquiry was made in respect to the diet of the patients, and whether they were in the habit of eating salt meat, or taking much salt at their meals, and the reply was (with the exception of one lady) that they disliked salt meat, and took very little salt. This led me to investigate the nature of the blood in several cases, to ascertain whether there were any chemical deficiency in the saline agents of this fluid, and on one occasion I thought some useful conclusion might be

adduced; but upon further and more elaborate investigation my hopes were blighted in a great measure upon this point. The following case is interesting, in as much as it will exemplify the beneficial effect of another preparation of chlorine in cancerous affections:—

Case 2.—Mary Bradley, ætat. 42, was admitted into the Middlesex Hospital under my care, Feb. 14, 1843, with a large, irregular, open cancer of the right breast, extending deep into the axilla, so that the pulsation of the vessels could be seen, with a foul, yellow, excavated surface, copious discharge, with much fetor and severe pain. She stated that two years and nine months previously Sir A. Cooper had removed a scirrhous tumour: after the operation the wound nearly healed, but broke out again into an ulcerated state a fortnight afterward; only the scirrhous swelling was removed. The rest of the breast with the nipple was left.

Feb. 15.—(*Extract from note-book.*)—The ulcerated surface extends deeply in the axilla down to the vessels and over a large surface from the centre of the sternum, to and below the axilla; it presents a very unhealthy appearance, with dark excavated spots at various parts, the fetor very great and the discharge very considerable. The following lotion was ordered to be applied with linen rags constantly kept wet: ℞. Chloride of lead, one drachm; water, a pint.

17. The surface of the cancer has a more healthy granulated appearance, more so in some parts than in others; the pain, she states, is less at the lower part, but much the same at the upper.

21. The surface appears more healthy; the granulations are red, and the edges of the ulcer have the appearance of healing; the pain is less. The following draught to be taken three times a-day: ℞. *Chloride of potassium*, ten grains in carraway water.

24. The whole surface has much improved; complains of very queer sensations in the head, with loss of memory, and a dullness all over the head and eyes. Omit the draught.

March 13.—The whole surface of the ulcer has become much better, and the edges are cicatrising slowly; she suffers less pain, and the fetor has ceased.

28. The ulcer in the centre has much the same appearance; the edges are not so well; small ulcerated spots, of the size of a pin's head, have been formed; they seem to extend deep, and the thin membrane at parts has become absorbed. She was ordered to take *liq. chlorini*, 3i; water ℥iss, three times a day.

31. The ulceration is about the same, with the exception of the edges; the small ulcers have increased, and some have acquired the size of a small pea; they are deep, and contain a thick, white discharge. The lotion of chloride of lead to be discontinued, and the following one used:—℞. *Chloride of zinc*, 3j; *Water*, ℥x. Make a lotion. She said the medicine did not agree with her. It was ordered to be discontinued.

April 4. She has been using the lotion continually since our last visit; the ulcerated surface has the same appearance. The application caused no pain nor inconvenience.

7. Remains much the same; perhaps at parts the ulcerated surface has a more healthy appearance. The lotion to be increased to double the former strength.

11. The ulcerated parts have a more healthy appearance at some places, and the edges are better; the spots have diminished in size and depth. The lotion still causes no pain; she says she remains much about the same.

June 2. The ulcerated surface has been bleeding several times; the former application was employed on each occasion with success; she is very low, and complains of her chest and cough. Comp. squill draught three times a day.

9. The whole surface has a more unhealthy appearance, and altogether the patient is worse in every respect; she is very low and restless; bleeding not so frequent. She was ordered wine and a little brandy with an egg; to go on with the draught.

16. The ulcerated surface appears more unhealthy; it has sloughed at small places, and bled a little at several times; the wound has extended deeeply into the axilla. From this time the patient gradually got worse, had great difficulty in breathing, no doubt from effusion of serum in the cavity of the thorax; the ulcerated surface bled several times, the muriated tincture of iron always stopped it; and she died on the 30th of June, having been in the hospital four months and a fortnight. No post-mortem examination was allowed to be made.

Remarks.—In this case the effects produced by the chloride of lead and the effort of nature to assist in the removal of the disease by the ulcer filling up and healing at the edges, were most striking. The disease having again an ascendancy over the system, destroying the edges at several parts, the patient being relieved from the pain by the application, and life prolonged, were remarkable. Little doubt can be entertained that had not the application been used, bleeding would have taken place sooner from the ulcerated surface near the axilla, which would have been fatal at the time; or she would have died from exhaustion, as the vessels at her admission were distinctly seen in the arm pits. The chloride of lead has been very extensively used in many cases of disease of the breast and uterus in the form both of lotion and ointment, with much success; it appears to act upon the nerves, paralysing them, and thus producing ease. One young patient used an ointment made with one drachm of the chloride of lead to an ounce of common cerate, rubbing it over the breast and arm-pit; it produced a complete numbness of the arm, and relieved the pain: the ointment was discontinued, and the numbness subsided in the arm; it was still used over the breast, and the patient was cured. This ointment will be found of most use in hysterical affections of the breast, or nervous irritability of its gland, and also in other cases, particularly when any tumour presses on or involves a nervous filament, and thus produces constant pain; the ointment applied upon the course of the nerve, over the situation of the pain, will give ease; it is also of much use in allaying inflammation, and it forms another valuable remedy in the treatment of these diseases. *Lancet, Jan.* 13, 1844, *p.* 502.

82.—TREATMENT OF SCALP DISEASE.

In a discussion at one of the meetings of the Westminster Medical Society, the President stated that, during a late visit to Brussels he had gone over the hospital of that city, and had been informed by M. Sauterne that he had found one of the most effectual remedies for scald-head, ring-worm, &c., to be an ointment, the chief ingredient of which was wood-soot. The common soot of the chimney was collected, placed in a quantity of water, and mascerated by a gentle heat for four days; the fluid was then strained and evaporated in an open vessel to the consistence of treacle. An equal proportion of this and common lard, or unguent, were mixed together, and applied to the affected part night and morning. The head was shaved as often as necessary, and washed thoroughly every third day. The active principle of the ointment was probably creasote.

Mr. Snow remarked that the curative effects of the ointment were probably dependent on the creasote and a small quantity of pyroligneous acid which it contained. He had somewhere read of the pyroligneous acid having been applied with success in cases of tinea capitis. Mr. M'Intyre, of Newcastle-upon-Tyne, had many years since used the tar-ointment with great benefit in various scalp affections.

Dr. Sayer believed that much of the curative efficacy of this ointment depended on the daily washing of the affected parts with the soft soap of the country, which contained much more alkali than ours did. When he was in Brussels, twenty-nine years since, the nurses washed the heads of the patients regularly every morning. The ointment then employed, and which he was still in the habit of using with the most decided good results, consisted of equal parts of charcoal, so burnt as to retain its pyroligneous acid,

nitrate of potash, and common brimstone, worked up with hog's lard into an unguent, and applied night and morning. In addition to the daily washing, the head was shaved every fourth day. This ointment was mentioned in the "Pathology" of Pinel, as efficacious in tinea capitis.

Mr. Fisher said that in Christ's Hospital the ringworm was treated with an ointment containing five grains of the bichloride of mercury to an ounce of lard.

Mr. Hancock attributed the great difficulty of eradicating ring-worm and other contagious scalp diseases, when they affected a great number, to the indiscriminate mixture of the persons, the continued use of the same cap, or hat, and the placing different persons in the same bed on different occasions. He stated that he had been requested to go to an Union workhouse in Sussex, in which above sixty of the children were affected with ringworm. Every kind of means had been used for its removal without effect. He ordered the children to be separated by being placed in various cottages about the neighbourhood; a complete cure followed.

Lancet, Nov. 25, 1843, *p.* 275.

83.—BEST POSITION IN FRACTURES OF THE FOREARM.

A good deal of discussion has lately arisen on this subject among several practical surgeons, each defending his own position. One gentleman, Dr. Chadwick, prefers the supine position, and advances, as his reason, that the biceps rotates the upper portion of the radius outwards in fracture of that bone below the tubercle, and says our practice should be to follow the position of the upper portion in effecting reduction by rotating the inferior portion outwards also; or by supinating the hand, and preserving that position until union is effected; and this plan he recommends from practical experience. Another gentleman, "Semisupinus," tells us to place the limb in a position between pronation and supination, and his principal reason (for he advances many) is the irksomeness to the patient of the prone position. A third, Mr. Rodick, observes, "The biceps cannot rotate the radius outwards, for it is in a state of positive relaxation, and, granting its full active influence, if the fracture occur below the insertion of the pronator radii teres, the latter muscle will be more than a match for the former," &c. Mr. T. O'Connor, of March, remarks on this subject that he would recommend the following experiment to be tried by any surgeon in the next case that may be brought before him, of fracture of the radius above the styloid process, and below the insertion of the pronator radii teres.]

Grasp the radius above the fracture, and rotate inwards, and while in that position, relax the hold of the bone; it will be rotated outwards with a jerk. Is that phenomenon the result of a relaxed or passive state of the biceps? My own opinion is, that it is caused by the action of the biceps and supinator radii brevis. Of seven cases of fracture of radius treated by me within the last year, two were treated on the semi-supine, and five on the supine plan; in every instance the fracture was immediately above the styloid process, commonly called Colles's fracture. In the two treated on the semi-supine plan, rotary motion was in a slight degree impaired, and that notwithstanding the full employment of the means usually recommended to preserve the interosseous space. The instruments which I used to press the soft parts into the space, were two circular pieces of wood, each about an inch in circumference, enveloped in common wadding, and extending anteriorly and posteriorly from elbow to wrist, kept in situ by a moderately tight bandage—the fracture, of course, previously reduced—the same instruments were employed in the five cases treated on the supine plan, and with a result so highly satisfactory, that I am fully resolved to treat fracture of the forearm on no other plan whatever.

Prov. Med. Jour., Nov. 18, 1843, *p.* 131.

84.—CASE OF SPINA BIFIDA SUCCESSFULLY TREATED BY REPE PUNCTURES.—By A. H. Stevens, M.D., New York.

The tumour, in this case, was seated over the upper part of the s about three inches and a half broad from side to side. The covering tumour was not healthy skin, but a peculiar thin membrane, of a colour, traversed by numerous vessels like varicose capillary veins. child was eight months old.]

In the operation to-day, Oct. 17, the tumour was punctured with knife, and about four ounces of clear serum, tinged with a few drops of issued from the puncture in the integuments. The child did not ap suffer any inconvenience from the evacuation of serum, but it prod slight sinking at the anterior fontanelle. The child's general health is There did not appear to be any deficiency of bone about the outer of the base of the tumour. The healthy integument mounted a few above the base, before giving place to the peculiar envelope above

20. The tumour was again tapped on the right side. Not more t ounce of serum escaped.

21. The tumour was again punctured in three places, along its edge, on the verge of the sound skin. About four ounces of serum es without any bad symptoms. The tumour is now somewhat shrivell the diminution does not appear equal to the amount of fluid evacuate

30. The fluid continued to ooze slowly for nearly 24 hours after t punctures. Since that period the child has been drooping and fretfu some febrile symptoms, perhaps partly owing to her teeth. Recent sac of the tumour has become inflamed; and within two days, the ch been observed to keep her left leg drawn up, and to cry when it is dist She has taken little or no medicine, except a slight dose of magnesia tumour is kept wet with a spirit-lotion. The anterior fontanelle is erably depressed. The tumour was not punctured afterwards. The symptoms and spasm of the muscles, soon subsided, and in a few da little patient returned with her parents to the country. At a secon to the city, in the spring or summer following, the child was again pr ed to us for examination. The sac of water had disappeared, and remained of it was a small bunch of indurated and corrugated integum *New York Jour. of Med.* for *Sept.*, 1843.

85.—THE ARCH-TOURNIQUET.

[Dr. Oke, of Southampton, has caused to be constructed an arch-t quet on a somewhat novel plan.]

It consists of an arch, a pad, and screw. The flanks of the arch a forated with holes for the action of the external screw, which is wor a short handle, as in the common tourniquet. The pad is of the or size, flat on one side, and convex on the other. Upon its flat surface is a smooth cavity for the reception and working of the point of the Mode of application:—Let the arch embrace the limb, so that one perforations of the flank may be exactly opposite the cavity on the fl of the pad, previously applied over the trunk of the artery to be compr Then fit the external into the internal screw, and work it upon the sufficient pressure be made to stop the circulation of the artery.

By this simple means, any of the principal arterial trunks of the ex ities may be compressed in the shortest possible time, without stran ing the circumference of the limb and obscuring the operation with v blood. The arch is prevented from slipping by the pressure of the upon the pad. The instrument is made of yew, in a very primitive m by a common mechanic of Southampton. Mr. Weiss, in whose pos it now is, has promised to submit it to some of the London surgeon should it be approved, to construct it of brass or steel. When it sha been thus improved by his well-known ingenuity, it will have a much er and lighter appearance. *Prov. Med. Jour.*, Nov. 25, 1843, p

86.—EXCISION OF INTERNAL PILES.

If the surgeon is determined to excise internal piles, the only safe way of doing so, is as follows:—When the tumour is protruded, the base of it should be transfixed by a long needle, which will prevent it from returning into the anus. Then it may be cut off; and the cut surface being exposed to the air, will not bleed so profusely; or if it does, it is easy to apply cold, astringents, or ligatures.—*Mr. Druitt.* *Prov. Med. Jour., Dec. 23, 1843, p. 230.*

87.—ANEURISM OF THE AORTA.

[In a very interesting paper on this subject, Dr. Law draws the following inferences:—]

When aneurism arises from the posterior part of the aorta, we generally want the evidence of a palpable tumour to indicate the disease. When the tumour is resisted in its development by unyielding structures, (as is the case when it arises from the posterior part of the aorta) it produces in these structures changes giving rise to peculiar symptoms, especially to a peculiar character of pain, which, if not exclusively confined to this disease, exists so much more frequently in it than in any other, as to be enough, at all times, to awaken a suspicion of aneurism. However obscure all other symptoms of aneurism of the aorta, apart from the existence of a palpable tumour, may be, still it rarely happens that there are not some, which, added to the existence of the particular pain, may not suffice to make up what this latter may want of an exclusive patho-gnomonic sign of the disease. If this pain be connected with the lower dorsal and lumbar vertebræ, and depend upon abdominal aneurism, there will be, according to our constant experience, a *bruit de soufflet* in the course of the artery. If the pain be connected with the upper or thoracic dorsal vertebræ, and be owing to aneurism, it seldom occurs that there is not some difficulty in deglutition, or some obstruction in the respiratory apparatus, either affecting the trachea, and so weakening the respiration in both lungs, or exercised upon either one bronchus or upon one lung, and so producing a difference in the relative form of the respiration in the two lungs. In the absence of the *bruit de soufflet* (which we have almost always found absent in thoracic aneurism, except where the valves of the aorta were involved in the disease), some one of these symptoms will generally be present to confirm the value of the pains.

The character of the pain consists in a constant, aching, boring sensation, and a sharp, lancinating pain. To relieve the agonizing pain of aneurism, there is scarcely a limit to the amount to which we may exhibit opium, without producing narcotism. In the treatment of aneurism, low diet should be avoided, as lessening the prospect of a radical cure of the disease, and as increasing a nervous irritability—the constant accompaniment of it. The interval between the fatal termination and the bursting of an aneurism is various, and is much influenced by the importance of the organs which the hæmorrhage may affect. If it burst into the pericardium, and compress the heart, such interval, will, of course, be shorter than if it compress a less vital organ. If there have been an adhesion between the laminæ of the pericardium the effusion will be more gradual, and therefore the interval will be longer than if no such adhesion existed, as we have proved by experience. The suddenness of the fatal termination would seem to be in proportion to the extent and suddenness of the hæmorrhage, and the importance of the organ or organs, whose function may be mechanically interfered with by the effused blood.

Dublin Jour. of Med. Science, May, 1844, p. 285.

88.—CASE OF A NEEDLE ENTERING THE RIGHT BREAST AND FINALLY LODGING IN THE HEART.

[A curious case of this description is related in the "Philadelphia Medical Examiner." The needle was accidentally pushed into the right breast on the 4th of August, 1842, but could not be detected. On the 8th of Sep-

tember she had pleurisy of the right side, and recovered in three weeks. On the 13th Feb., 1843, she had a slight attack of pneumonia, and on the 10th March she had spasms of the diaphragm; and on the 26th March obstinate vomiting. On the 5th of April she began to have pain in the heart, which increased, together with other symptoms of cardiac disease, till her death on the 27th of April, nearly nine months after the needle had entered her body.]

The heart was small and flaccid, containing only small coagula. On opening the left ventricle the point of a needle was seen protruding a quarter of an inch towards the middle of the cavity. The needle had passed at the under surface of the heart about three-quarters of an inch from its apex, and half an inch from the septum, through the wall of the right ventricle, through a columna cornea, through the septum and into the left ventricle. It was fifteen lines in length; its head, somewhat incrusted, was imbedded in the wall of the right ventricle, just under the surface of the pericardium. The orifice made by the needle seemed to have been completely closed by coagulable lymph; but it would be very easy for a small channel to escape detection in such a mass. The internal membranes of the heart were smooth and shining; without any marks of inflammation; all the large vessels were in excellent condition.

Although the patient could never point to the situation of the needle, and was always unconscious of its presence in any particular part, yet, during my attendance, I never doubted that it was the cause of all her ailments. I presume it first lodged obliquely in the intercostal muscles, or was made to do so by her own attempts to discover its situation; it then passed through the pleura, and probably a portion of the lung, reaching the floor of the diaphragm; it then seems to have moved near the œsophagus, irritating some filaments of the par vagum; and finally it reached the heart.

Medical Gazette, Jan. 5, 1844, *p.* 462.

89.—SUGGESTIONS FOR THE IMPROVEMENT OF THE RHINOPLASTIC OPERATION.—By William Keith, M.D., Surgeon to the Royal Infirmary, Aberdeen.

[It often happens that when a lost nose is restored by this operation, it becomes a skinny, shrivelled appendage, and, out of all proportion, small. This may be owing to the circumstance that when union of the transplanted portion has taken place, the connecting slip between the nose-flap and the forehead is divided. This proceeding would cause inadequate nourishment to be communicated to the new nose, which would only be kept alive by the new vessels that inosculated in the cicatrix all round: whereas if the connecting slip were allowed to remain for a much longer time than is often done, it would assist materially in keeping up the life and vigour of the transplanted nose. This proceeding was adopted by Dr. Keith in the following case of Donald Mackenzie, aged 17, whose nose had been completely lost from the destructive ravages of lupus.]

October 27. Pared the edge of the nasal opening; raised a large flap previously marked out, and very much of the shape of the ace of spades, from the forehead, leaving the point attached to the root of the nose, by a thick strip, fully one-third of an inch in breadth. Having waited until all bleeding had ceased, the flap was brought down by twisting the connecting strip, and secured by two stitches of the interrupted suture on each side, to the edges of the cheeks. Supporting the alæ by dossils of lint dipped in oil, made the edges of the void left in the forehead to approximate in some degree by the help of one stitch, and covered the whole with warm water dressing and oiled silk. The temperature of the closet to be kept at 72° of Fahr. Thick gruel to drink is his only food.

October 28, 8 A. M. He has passed a good night, very little oozing from the wounds; temperature of the flap almost natural; colour bluish; pulse 72; tongue clean and moist; bowels slow. 8 P. M. Complains of general uneasiness; pulse 84; hard; tongue dry.

℞. Chloridi hydrargyri, gr. v.; pulveris opii, gr. j; confectionis aromaticæ, q. s. M. ft. pilula statim sumenda.

℞. Misturiæ salinæ, ℥x; vini ipecacuanhæ, ℥j; solutionis muriatis morphiæ, ℥ss. M. ft. mistura. Capiat cochleare magnum omni hora.

℞. Olei ricini, ℥vj; aquæ cassiæ, ℥j M. ft. haustus, cras mane sumendus.

October 29, 12 noon. He slept comfortably, perspired freely, and has had a copious evacuation of his bowels; pulse 80, softer, tongue clean and more moist; nose still bluish but warm. 8 P. M. Feels quite easy now; pulse 76, and soft; tongue moist; bowels twice moved since noon; nose quite warm, and nearly the same colour as the face.

October 30, 12 noon. He passed the night comfortably; pulse 86; tongue rather dry, but no urgent thirst; bowels moved sparingly this morning; the nose looking very natural, and preserving its temperature; removed the plugs from the opening into the nose; withdrew all the stitches; found adhesion of the nose perfect throughout; it maintained its firmness and prominence without the aid of a plug; the wound in the forehead much contracted, and filled with effused lymph, almost to the level of the surrounding skin; slight erythema on one cheek. The cheek to be smeared with white oxide of zinc ointment, as the exciting cause seems to be the purulent discharge dropping on it from the wound in the forehead. 8 P. M. Cool and comfortable; pulse 72; bowels have moved twice; the eruption on the face already gone.

October 31. Was restless last night; pulse 72; skin soft; tongue rather dry; bowels open, but stool dark-coloured. To have a blue and a rheubarb pill at bed-time.

November 1, 10 A. M. In the early part of the night, the right flap of the nose became detached, which circumstance made him nervous, and has hindered him from getting sleep; he feels well however; pulse 60; bowels freely opened; the circulation seems very languid in the nose to-day; it comes out on enquiry that the fire had gone out, and the night being intensely cold, had so chilled his nose, that it has not even yet recovered its heat. Hot water dressing to be diligently applied. Two ounces of wine allowed. 8 P. M. The temperature of the body has been quite natural through the afternoon, as also the colour and temperature of the new nose; pulse 72; rawed the edge of the right ala and corresponding cheek, and took a fresh stitch of them to each other.

November 2, 12 noon. He has passed a good night; nose warm, and of healthy colour; pulse 72; bowels open; feels well. Repeat the wine.

November 4. Going on well; pulse 60, wound on the forehead granulating vigorously. Three ounces of port-wine allowed daily.

November 6. Two-thirds of the whole extent of the new nose firmly adherent to the parts adjacent, so as to bear pulling with impunity, but the right ala still unattached; the opposing edges are, however, suppurating kindly, and beginning to granulate; the granulations on the forehead quite prominent. The wound to be dressed with sulphate of zinc lotion. Wine continued and full diet allowed.

November 8. Removed the stitch from the right side of the nose which was inserted on the 1st current, and found that union had taken place.

November 16. The nose was firmly adherent to the face; and the wound on the forehead was entirely skinned over.

November 19. Proceded to establish a columna nasi. Took a slip a quarter of an inch broad from the centre line of the upper lip, and through all its thickness rawed the lower end, and also the inside of the tip of the new nose, and having turned up the slip into the line of the column, there fixed it by a lady's sewing needle passed through the point of the nose. The upper lip was then treated as is usual in hare-lip; the edges neatly approximated, were kept *in situ* by two fine needles and the twisted suture. Union took place speedily in both the nose and the lip. The appearance of the mouth being much improved by the upper lip—previously too long—having been shortened, and the columa at first looking rather bulky, con-

tracted to a very suitable size as the cicatrized surfaces firmed. A small extent of the twisted slip of the flap between the eye-brows remained detached from the subjacent surface, but a few days' dressing with blistering ointment, brought both surfaces into a granulating state, after which entire union speedily took place. He soon after left the hospital sound and well. In conclusion I would suggest the propriety of performing such operations in summer, when less risk would be incurred from variations of temperature; the frost on the night of the 1st of November proved all but fatal to the nose in the above case. *Lon. and Ed. M. J. of M. S., Feb., 1844, p. 113.*

90.—PRUSSIC ACID IN OPACITY OF THE CORNEA.—By G. K. W. Patersone, Esq.

[We certainly have not that confidence in this remedy which some surgeons have; but Mr. Patersone makes such a positive statement as to its powers in remedying opacity of the cornea, and gives cases to confirm this opinion, that we think it right once more to refer to it. Mr. P. relates the following case.]

May 16, 1843.—Thomas Galloway, æt. 23, weaver, of a strumous diathesis. About eight months ago had an attack of inflammation in both eyes, to relieve which, went to an hospital, and remained under treatment for about six months, without being benefitted, further than getting rid of the pain and redness. At present both cornea are occupied with opacities nearly in the centre, and almost covering the whole expanse of the pupil, which renders him unable to read, or follow his usual employment. Had the vapour applied to both eyes daily, for the space of seven weeks; at the end of which, he could read a good type, and was also able to pursue his occupation.

I may state, also, that I have applied the vapour in two cases of amaurosis, along with the ordinary remedies in this disease, with considerable success. In concluding these brief statements, purely with a view to make known to the profession the results of it in my hands, I cannot forbear expressing a strong belief, that, when cautiously and gradually applied, much good, as has already been done by the vapour of prussic acid in several forms of blindness, will yet be effected, and I doubt not for a moment to find it ere long ranking as a remedy of considerable efficacy in some of the more formidable diseases of the eye. *Med. Gazette, May 15, 1844, p. 808.*

91.—CYANIDE OF ZINC IN ULCERS AND OPACITIES OF THE CORNEA.

M. Carrier believes that preparations of hydrocyanic acid have great efficacy in causing cicatrization of ulcers of the cornea and absorption of opacities. The compound which he prefers, is the cyanide of zinc, made into an ointment, in the proportion of 1 to 25 of lard.

Prov. Med. Jour., Feb. 10, 1844, p. 378.

92.—HÆMORRHAGE AFTER AMPUTATION.

Mr. Jesse, of Manchester, mentions in the Prov. Med. Jour., two cases of venous hemorrhage occurring immediately after the arteries had been tied, from obstruction to the venous circulation by the retraction of the fascia or integument, a free incision through which caused an instant cessation of the loss of blood. *Medical Times, Feb. 10, 1844, p. 333.*

93.—CHLORIDE OF ZINC IN TOOTH-ACHE.

According to Dr. Stanelli, the chloride of zinc, liquified by exposure to the air, possesses the property of calming dental pains. His mode of application is most simple. By means of a small hair pencil, a small quantity of it is applied to the cavity of the painful tooth, and in the space of a few minutes it appeases the most acute sufferings, without causing any irritation.

Before proceeding to the application, it is indispensable carefully to surround the tooth with cotton wadding, and, when the chloride has been applied, to well fill the cavity with this same cotton. The mouth is finally washed with a little warm water. The author affirms that he has obtained uniform success from this means in more than fifty cases, and that he has never observed the progress of the caries rendered more active by it.—*Annali Universali de Medicina;* and *Chemist.* *Med. Gazette, Feb. 16, 1844, p. 672.*

94.—CURE OF NÆVI BY CROTON OIL.

M. Lafarque states his method of curing Nævi, by inoculating with croton oil, as follows: Five or six punctures should be made on and around the tumour, with a lancet dipped in the oil, just as in vaccination.

Each of the punctures causes immediately a pimple, which in thirty-six hours is developed into a little boil. These boils unite and form a red, hot, painful tumour, covered with white crusts, and resembling a small carbuncle. Two days afterwards the scabs separate, and in lieu of the nævus is seen an ulcer, which is to be treated on general principles. It would be dangerous to make more than six punctures on a very young infant, as the irritation and fever are considerable. *Prov. Med. Jour., Feb. 17, 1844, p. 393.*

95.—SCROFULOUS DISEASES OF THE TESTIS.

Mr. Curling's account of the symptoms of scrofulous disease of the testis is in our judgment the very best we have met with; superior, we think, in minute accuracy and fidelity to that of Sir B. Brodie, which is the next best we are acquainted with. On this account, and also because we have not yet given any connecting examples of Mr. Curling's manner of describing disease, we insert the following quotation:

"The disease commences insidiously, and is insidious in its progress. The patient's attention is usually first attracted by a slight uneasiness in some part of the gland, generally the epididymis, which on examination is found to be somewhat enlarged, prominent and hardened. Sometimes the whole organ feels slightly enlarged and indurated, though it more frequently forms a tumour with an unequal and irregular surface. The state of the testis, however, is often marked by small local effusions of fluid in the tunica vaginalis, the surfaces of this membrane being partially adherent. Very little pain is experienced in the part, and there is but slight tenderness on pressure. After the disease has lasted for some time, many months, or even a year and more, making little progress, and often remaining stationary, one of the prominences begins to increase so as to be observed externally, and to feel painful and tender; the skin over it becomes adherent, changes to a livid hue, ulcerates and bursts, giving vent to a soft caseous matter mixed with pus. This is followed by the formation of a fistulous sinus, which discharges a scanty, thin, serous pus, mixed with particles of tubular matter and often with semen, particularly after venereal excitement. Similar changes may take place in other parts of the testis, occasioning two or more sinuses leading to the interior of the gland. These sinuses sometimes communicate, and they may continue open and discharging for a great length of time. After the deposit has all come away, if the original disease be arrested, and no more tubercular matter formed, reparative changes sometimes take place; the discharge ceases, the fistulæ close up, leaving the organ more or less diminished in size, or entirely wasted, according to the extent to which it had been disorganised by the tubercular deposit. The bursting of the abscess and escape of the tubercular matter are sometimes followed by a hernial protrusion of the testis, as after chronic inflammation of the gland.

The directions for the treatment are judicious and practical. Mr. Curling says nothing of the use of the liquor potassæ which Sir B. Brodie has found more useful than any thing. We mention this the rather that we have de-

rived singular benefit from the use of this medicine not only in this affection, but generally in cases of external tubercular disease; but it must be given in large doses, gradually augmented to sixty or eighty drops three times a day if possible. We feel satisfied (though well aware how difficult it is to fairly estimate the therapeutic influence of remedies in chronic diseases) that this medicine, given as freely as the case will allow, in combination with the iodide of potassium, effects greatly more than the latter medicine will accomplish by itself. *Brit. and Foreign Med. Rev., Jan., 1844, p. 68.*

96.—TREATMENT OF MERCURIAL SORE MOUTH.

There are few accidents more provoking to the young practitioner than the not uncommon, undesired, and unexpected supervention of profuse salivation during the exhibition of mercury. We fear all the comfort we can give him in such a case is contained in the following extract from Dr. Watson's lectures:—

"You will constantly be called upon to do something for the relief of this disease (for so we must call it) which you yourself, or some of your brethren, have with the best intentions inflicted. I have tried all sorts of expedients; and I have asked a great number of my friends what is the best plan to adopt in such cases; but I never could get much satisfactory information from them. Some thought purging was the best thing. Others recommended alum gargles, or gargles made with the chloride of soda; and these last certainly have one good effect, that of correcting the fetor. A dilute solution of chlorine in water, much used at the Middlesex Hospital, is better still. Others believed that sulphur, which has long been prescribed in such emergencies, was really of service; and some advised that the patient should be as much as possible in the open air; a few commended iodine. All admitted that they knew of no certain remedy. Neither do I. But there are two or three expedients which I am confident are often of very great use in checking the violence of the salivation, and in removing the most distressing of its accompaniments. If there be much external swelling, treat the case as being, what it really is, a case of *local inflammation;* apply eight or ten leeches beneath the edges of the jaw bones, and wrap a soft poultice round the neck, into which the orifices made by the leeches may bleed; and I can promise you that, in nine cases out of ten, you will receive the thanks of your patient for the great comfort this measure has afforded him. Pure tannin, moistened and smeared upon the spongy gums, is remarkably efficacious in rendering them firmer and more comfortable. But this is not always to be procured; and when the flow of saliva, and the soreness of the gums, formed the chief part of the grievance, I have found nothing more generally useful than a gargle made of brandy-and-water, in the proportion of one part of brandy to four or five of water. This last piece of practice I learned from the present apothecary to the Middlesex Hospital; I have tried it over and over again, and I tell it to you as a thing worth remembering. These little points are by no means to be despised. A very fashionable and successful physician, now dead, used sometimes to say when he met others of his brethren in consultation, 'It is all very well to speculate about the exact situation and the precise nature of the disorder, but the question with me is, "what is good for this, that, or t'other thing?'" A wise physician will seek to combine with an accurate knowledge of disease and settled principles of treatment, those practical expedients and minor appliances which are picked up by casual experience; which could never have been reasoned out, and which sometimes constituted nearly all that we can do for our patient's benefit."

Brit. and Foreign Med. Rev., Jan., 1844, p. 125.

97.—PREVENTION OF THE CONTAGION OF SYPHILIS.

The problem of the means of extinguishing syphilitic contagion, appears to have been solved at the hospitals at St. Petersburgh. In principle, it

appears simple enough, the point to be effected being merely to prevent the absorption of muco purulent matter, either by means of washings, which remove it directly, or by liquids, such as the chloride of lime, which have the property either of decomposing it, or of preventing otherwise its inoculation. In practice, however, it proves a matter of great difficulty, especially in the female. In St. Petersburgh, the most satisfactory results are said to have followed the use of the prophylactic soap of Dr. Pfeffer. The active ingredients of this soap appear to be—in 500 grains of the substance, six grains of bichloride of mercury, four of tannin, and forty-five of chloride of lime, incorporated into a soap with soda.—*Annales de Therapeutique, November*, 1843. *Lon. and Edin. Med. Jour. of March*, 1844, *p.* 252.

98.—TRACHEOTOMY IN THE LAST STAGE OF CROUP.

At the sitting of the Academy of Sciences on the 8th of January, M. Scoutetten, Professor at the Military Hospital of Instruction at Strasburgh, read a case of tracheotomy performed with success in the last stage of croup. He performed the operation on his own daughter, an infant six weeks old, to save her from imminent death. The operation was successful. According to M. Scoutetten, it is the only instance of tracheotomy performed on account of croup on an infant of this age; and the only one in which such alarming symptoms lasted so long. He is of opinion that this case ought to encourage the timid, and show the surprising resources of nature at this tender age. *Medical Gazette, March* 1, 1844, *p.* 759.

99.—TREATMENT OF ERECTILE TUMOURS OF THE EYELIDS.—By M. Carron du Villards.

A little girl, fourteen years of age, had presented, since her birth, on the upper eyelid, an erectile tumour, about the size of a grain of coffee. The tumour was of a livid red colour, increased daily, and was excessively tense when the child cried. M. Carron du Villards inoculated the tumour and its circumference with vaccine virus, traversing it with a thread impregnated with the vaccine matter. On the fifth day, the symptoms of inoculation manifested themselves. Five pustules appeared around the tumour, which itself became inflamed. On the tenth day it was covered by a black crust, which came off on the twentieth, leaving a healthy, rosy surface underneath. All traces of the erectile tumour had disappeared.

A child, nine years of age, had borne, since its infancy, an erectile tumour in the external angle of the eye. The tumour had never increased in size until the child was attacked with scarlatina. Its increase from that time was so rapid as to alarm the parents, who applied to M. Carron du Villards. Three entomological pins were fixed in the tumour, and their extremities having been bound together with a little silver wire, were exposed to the flame of a wax candle. The tumour became swollen, cracked, and then sank. On withdrawing the pins they brought away a portion of its parenchyma. Eight days afterwards the child was cured.

A pretty young woman of Versailles, had an erectile tumour, of the size of a pea, on the superior eyelid. After an attack of scarlatina, it became endowed with increased vitality, and appeared ready to burst every time she coughed. In six weeks it acquired the size of an olive. M. Carron du Villards having been then consulted by her family, determined to operate by the coagulating method. The tumour was injected, by means of Anel's syringe, with a styptic solution. It became black, and then faded. On the fourth day it was surrounded by an inflammatory circle, and covered by small phlyctenæ. The fifth day a portion of it separated, and the rest dried up. On the eighth day the entire crust fell off, leaving underneath a rosy, new skin, similar to that of a cicatrized blister, without loss of substance or deformity. *Lancet, April* 27, 1844, *p.* 158.

100.—EXTRACTION OF FOREIGN BODIES FROM THE EAR.

[On this subject Mr. Chitty Clendon offers some ingenious suggestions as to the formation of the particular kind of forceps required. He says:]

In the cases I have referred to, it appeared to me that the difficulty was increased by the unsuitable form of the instruments employed. In many of them the extremities of the blades were *flat* on the grasping surfaces, and so thick and clumsy that it was difficult, even if it were possible, to introduce them between the walls of the cavity and the substance to be removed; and in all of them the *width* of the blades increased towards the joint; the external orifice consequently pressed on them, and closed the instrument by the time it reached the substance, and every attempt to grasp it rendered the difficulty still greater, by pushing it further into the passage. As I have given some attention to the construction of tooth forceps, I thought I could plan an instrument which would entirely obviate the difficulties I have enumerated. The forceps I have made for this purpose pass freely into the ear, until they meet the opposing substance, and then, opening the handles, the slightly concave extremities act as dilators, and will securely grasp a substance which has previously choked up the passage; while the blades at the orifice diminish, rather than increase in width, even when open to the full extent. This instrument has been seen by Sir B. Brodie, who was much pleased with it, and requested to retain it, in order to have one made for his own use. It is equally well adapted to grasp a pea, a cherry-stone, or piece of slate-pencil, substances most frequently introduced by children, as large masses of indurated wax; and I think it would also be found useful in removing small polypi from the nares.

Lancet, March 16, 1844, *p.* 824.

101.—ARTIFICIAL PUPIL MADE IN THE SUPERIOR EYELID.

In a case of contraction of the orbicular muscle of the eyelid, which had resisted every remedy, even the twice-repeated section of the muscular fibres, M. Gerold resorted to the following operation, which he has been the first to propose and to execute. After introducing a small flat piece of wood, well oiled, underneath the superior eyelid, exactly opposite the pupil of the eye, he made a crucial incision, which completely divided the skin, the muscle, and the mucous membrane. The external skin was then dissected off the four flaps thus formed, and the mucous surface was turned outwards, and fastened to the base of the flaps, so that the mucous membrane formed the circumference of the artificial opening. No accident supervened, and vision was restored; the patient wore spectacles as a precautionary measure.

Such intractable cases as the above are of very rare occurrence; still the operation of M. Gerold, which is a most ingenious one, is a valuable addition to science. It may likewise be resorted to in cases of partial or complete paralysis of the third pair, with prolapsus of the superior palbebra. The longitudinal section of the eyelid, which has been proposed in such cases, is evidently a much more objectionable operation; it interferes more with the contraction of the orbicular muscles, exposes a greater extent of the eye to the external atmosphere, and consequently renders the inflammation, which usually follows such exposure, as in paralysis of the seventh pair, much more probable.—*Annales Belges d'Oculistique.*

Lancet, March 23, 1844, *p.* 9.

102.—DIAGNOSIS OF FRACTURES OF THE LOWER END OF THE RADIUS.—By Edward F. Lonsdale, Esq.

[Mr. Lonsdale thinks there are one or two points connected with fractures of the lower end of the radius, which deserve more attention than has hitherto been paid to them, as diagnostic symptoms of this particular kind of injury. He refers to the prominent ulna, and peculiar displacement of the hand. He says:]

When the radius is fractured within its lower inch, or inch and a half, by a fall on the hand, it will be found that, in the majority of cases, the following deformity exists:—The whole hand appears to be displaced laterally

outwards, or in a state of abduction; that is to say, the ulnar edge of it, instead of being in a line with the ulna itself, occupies a position more external, or towards the radius, which causes the end of the ulna to project, and to be apparently dislocated. There is also generally found to be a depression on the opposite side, in the radius itself, in the situation of the fracture; and there is not unfrequently a prominence posteriorly above the carpus, when the displacement has taken place in this direction as well. The crepitus is not often present in these cases, for the fractured surfaces are so tightly locked together, that motion between them is seldom obtained.

The explanation of the above position of the hand no doubt is the following. When a person falls on the hand with sufficient violence to fracture the radius, the force after it has produced the fracture, tells upon the lower portion of bone, and pushes it inwards towards the ulna, at the same time that it must take the wrist and hand with it, owing to its mode of connection with the carpus. The ulnar edge of the hand then loses its normal position with the ulna, causing the end of this bone to stand out in so prominent and decided a manner. It is to these two latter symptoms that I attach so much importance as being diagnostic of this particular kind of fracture; for I believe that in every case of injury about the wrist, from a fall upon the hand (whether in old or young people, though more frequently in the former), where there are found to be *this peculiar prominence of the ulna, and lateral displacement of the hand*, it may safely be said, that the lower end of the radius has been fractured, without the necessity of taking any other symptoms to help the diagnosis, even if no deformity is to be felt about the radius itself, or other part of the joint. I have come to the above conclusion after close observation and much attention to the subject, and believe them to be sure diagnostic symptoms of fracture of the lower end of the radius.

Med. Gaz., Dec. 29, 1843, p. 407.

103.—ON GANGRENE OF THE FACE.—By Henry Obre, Esq., late assistant Surgeon to the St. Marylebone Infirmary.

[The object of this communication is not so much to bring forward any thing novel in its description as to recommend the following mode of treatment for this formidable disease.]

If the patient do not sink from previous disease, it advances rapidly until it destroys the external integument. In this state there is a remedy which has produced the most decided benefit I allude to the application of the actual cautery. It has been used in this disease by Baron Isnard, and was named to me by Dr. Hennis Green, at whose recommendation I have repeatedly used it with marked benefit. The application of a red hot iron to the face appears a formidable measure; but it may be done without producing pain. When I have used it the patients did not appear conscious of its application. A flat piece of steel being introduced along the side of the tongue to defend it, the heated iron is to be well applied over the entire gangrenous parts. When any spot has been left untouched, the gangrene, when arrested in other parts, will at this point advance. After the cautery has been used a yeast poultice may be applied. In a day or two the slough is thrown off, when granulation and contraction of the wound soon take place. In exemplification of the benefit of this remedy, I will narrate two cases where it produced decided advantage, and in which it immediately arrested the disease. In one the mortification was the sequela of fever, in the other of one of the exanthemata, which will be sufficient, the other cases being treated similarly.

The subject of the first case was a boy, nine years of age, living in an unhealthy situation, who suffered an attack of typhus, and was treated with bark and wine. When sufficiently recovered to sit up in bed, an ulceration of an ash-colour was perceived on the external and back part of the gum of the upper maxilla. It had increased to such an extent, before being discov-

ered, that the first two molar teeth were loosened, and soon fell out. Nitric acid was applied, the ulceration soon passed to the mucous membrane of the cheek, which was hard, swollen, and of a glazed appearance. In a day or two the ulceration passed through the cheek to the size of a half-crown piece. It presented a gangrenous appearance, and was very offensive. The hands required to be restrained to prevent his destroying a poultice of yeast which was applied. Although in this state he sat up in bed and ate animal food. The strides of the disease were now alarming, advancing to the commissure of the mouth in front, and passing back to within an inch of the tragus. The parents having consented, the actual cautery was applied to the external diseased parts with little or no uneasiness to the child. For a week its progress was perfectly arrested, when it began to increase under the integuments.

The edges of the sore were irregular and everted, the internal parts of the mouth quite exposed (from the wound), with the superior maxillas high as the zygoma. Being fearful that the lower eyelid would be destroyed, as the disease was extending in that direction, the cautery was repeated with the same success as previously, the slough soon came away, and granulations superseded; at times the double teeth on that side fell out. From this time the wound gradually improved, contracting by cicatrization, and the boy eventually, but slowly, perfectly recovered, as will be seen by the cast which I made two years after his recovery. He is, however, unable to open the mouth to a greater extent than the quarter of an inch, in consequence of adhesion of the cheek to the gum on the diseased side, which inconvenience I am desirous of removing by the knife.

The second case was a girl, aged three years, who had always lived in large towns. Her diet was chiefly vegetable, seldom taking animal food, in consequence of the poverty of the parents. When convalescent from measles (for which she had no medicinal treatment) the mother was surprised to see a black mark on the chin, which soon became ulcerated. The following day it destroyed the surrounding parts. I now visited her for the first time. She was lying on her back, apparently suffering little or no pain; the covering of the lower jaw, anterior to the insertion of the masseter, is quite destroyed, except a narrow communication joining the angles of the mouth; the exposed bone beginning to decay; the integument surrounding the disease is pale, tumid, and hardened; fœtor most offensive; pulse 108; tongue covered with brown fur; in other respects natural. Wine and quinine were administered internally, and nitric acid applied to the diseased surface, but it did not arrest its progress; the gangrene increasing, destroyed the communication between the angles of the mouth, separated the base of the tongue from the bone, passed down nearly to the *os hyoides*, exposing the submaxillary gland, and all the teeth of the lower jaw fell out, while those of the upper continued perfect; the actual cautery was applied over the diseased parts on the external surface, and chlorine cloths laid over after. On the following day a most decided improvement was to be seen. Where the iron had been applied, the disease had not extended; but on the inside of the mouth, where it could not be used, it continued to spread for two or three days, when the child died exhausted. The appearance of the face after death is tolerably well represented by a wax cast, which was taken after death; but it does not at all represent the appearance the poor child had.

These cases will be sufficient for my object. Others I could also narrate, were it necessary, to establish the benefit of the actual cautery in this disease. In the first case a complete cure was obtained; in the second the child died, but the cautery completely arrested mortification at the parts to which it was applied, and would probably have been attended with the same success as in the first case, if it had been employed under equally favourable circumstances. I am not aware that the actual cautery has been used in this country in the treatment of *gangræna oris*, although most of our writers on the subject recommend it on the testimony of Baron Isnard and

Margolin. It is evidently a powerful agent, and is worthy of trial in that form of disease, which, according to Dr. Willis, destroys nineteen out of twenty of those attacked. *Ed. Med. and Surg. Jour., Jan., 1844, p. 105.*

104.—OPIUM IN HERNIA.

[The following case by Mr. J. M. Walker, of Newcastle-on-Tyne, shows the good effect of opium in hernia.]

I was sent for at 10 P. M., on the 24th inst., to visit R. H., aged 45, a stout, muscular man, suffering under strangulated scrotal hernia in the right side. He had been trying for an hour to reduce it, having done so frequently before, but now he informed me it was a great deal larger. He was vomiting, and complained on the least pressure. In consequence of the extreme tenderness I did not persevere in the taxis, but decided on putting him under the influence of opium. I gave him two grains every fifteen minutes, until he had taken six grains, and to use hot fomentations. Shortly after the first pill the vomiting ceased; and when I visited him again, at half-past 12 P. M., I found him, as he said, exceedingly comfortable; it was quite evident he was enjoying all the luxury of an opium eater. Upon inquiry, he told me he had not touched the swelling, but that it had gone away of its own accord. *Med. Gaz., Jan. 12, 1844, p. 484.*

105.—TREATMENT OF CARTILAGINOUS BODIES IN JOINTS.

On this subject, Mr. Liston, in his lectures on the diseases of the joints, says, as regards the management of cartilaginous bodies in joints, it is often absolutely necessary to free the patient from the annoyance they occasion. After they become loose, they are apt, from time to time, to slip betwixt the bones, to cause great pain, and seriously to impede progression. They do occasionally form a bed for themselves, and cause little or no uneasiness after a while; but this is the exception. It was the custom, years ago, to remove these bodies by incision, and this was contrived in such a way that the opening through the skin did not correspond with that in the capsule. The skin was drawn aside, opened, and the body cut open. After its escape, the integument being let loose, resumed its place, and was then put carefully together. Union often took place, and if the joint was kept quiet, the patient recovered without further risk. But, again, if the wound did not unite, and suppuration was established in its track, inflammation of the joint, and disorganization of the tissues composing it, not unfrequently happened. The limb was thus put in jeopardy, and sometimes also the patient's life. Another and improved mode of proceeding was proposed some years ago by Dr. Goyraud, of Aix, and at the same period by Mr. Syme, of Edinburgh. This plan I have pursued in several cases with excellent success. It consists in subcutaneous division of the capsule of the joint, and the lodgment of the cartilaginous body in the cellular tissue. The proceeding is not unattended with difficulty, and it is one which a person not accustomed to undertake operative procedures will be exceedingly apt to fail in. The fixing of the mass is often not an easy matter. It may, moreover, escape into the joint during the incisions. The position of the cartilage being secured as well as possible, the small instrument—a needle-like knife—is introduced at a distance from it; the capsule being then cut to the requisite extent, the body is thrust or pulled out and lodged in the cellular tissue, in a space previously prepared for it. There it will generally remain without causing the slightest annoyance. In a case which was lately under my care, either five or six of the cartilaginous masses were thus removed from the joint as they became loose and troublesome. Two of them were ultimately removed by incision of the skin, one necessarily on account of diffuse infiltration and formation of matter. The others now lie under the skin comfortably enough. *Lancet, Dec. 2, 1843, p. 283.*

106.—CAUSTIC VIENNA PASTE.

The caustic Vienna paste is made with five parts of lime and six of pure potash, mixed together with alcohol. *Lancet, Dec. 2, 1843, p. 407.*

107.—TREATMENT OF HERNIA HUMORALIS, OR GONORRHŒAL ORCHITIS, BY OPIUM.

In the reports of cases of this description under Mr. Gay, in the Royal Free Hospital, London, we find that the gonorrhœal inflammation of the testicles and appendages were speedily and completely cured, by purgatives and opium. Hyosciamus has been given with equally good effects. The full and free purgation was always necessary before giving the opium. Fifteen minims of laudanum may be given every four hours, and the previous purgative may be composed of five grains of calomel with twenty-five grains of jalap, or a strong black draught.

Lancet, Jan. 6, 1844, p. 484.

108.—OPERATION FOR HARE-LIP.

Simple as this operation generally is, there is some variety of opinion as to the period of life at which it ought to be performed. Mr. Ferguson's opinion is, that under all circumstances, the best period is immediately after suckling, provided the patient appears in good health, and does not seem to suffer from teething. Here, as in all other cases about to be subjected to operation, it is the duty of the surgeon to examine as to the state of the system generally, and such being satisfactory, he imagines that there is no safer opportunity than that referred to. Some, however, have urged that a later age should be selected, while others have chosen an earlier. Of the two he prefers the latter, although, indeed, it seems to be, in the generality of cases, more a matter of choice, as to will or convenience, when the proceeding should be done; for, usually, it is a very safe operation at all periods of life. He gives preference to the early age, as the patient is then more manageable, and he states that he had experienced most trouble with those about eight years old, as the struggles of the sufferers were then more difficult of control. At a later age, again, the parties are usually very desirous to submit to the surgeon, and have sufficient command over themselves to keep perfectly steady. *Lancet, Jan. 6, 1844, p. 482.*

109.—ACUPUNCTURE FOR THE CONSOLIDATION OF FRACTURE.

A young man, aged 26, of a strong constitution, fractured the two bones of the forearm; the fracture was simple. The surgeon who attended him, perceiving, that, at the end of five weeks after the accident, reunion had not taken place, applied afresh the apparatus, and ordered absolute repose for the limb for four weeks longer. This time having elapsed, M. Wiesel observed that the fragments of bone still preserved their mobility, and he then determined to have recourse to acupuncture, which he performed in the following manner:—He introduced between the two movable fragments of the ulna, two needles, sufficiently long to traverse the false articulation from side to side, and kept the needles in that position for the six following days, after which he withdrew them, because they had excited, by their presence, a considerable swelling of the part, and severe pain. M. Wiesel, fifteen days afterwards, traversed, in the same manner, the false articulation of the radius, with two other needles, which, at the end of a few days, caused sharp pain, and a slight suppuration. He then applied a simple bandage to the limb, and in the space of six weeks a complete consolidation took place. This case is no less interesting for its success than for the simplicity of the means adopted. It proves that, in cases of false articulation, the surgeon, before employing the seton, or removing the ends of the bone, has a method to try, very simple and innocent, and which, in some cases at least, has been attended with most advantageous results.

Prov. Med. Journal, Feb. 3, 1844, p. 360.

110.—METHOD OF CAUSING IMMEDIATE VESICATION.

This method; which M. Deaucq proposes to call *blistering by the watch-glass*, is effected as follows: Drop into a flattish watch-glass, eight or ten drops of the strongest liquor ammoniæ; cover the liquid with a piece of linen, its diameter rather less than that of the glass; apply the glass containing the linen to the skin, previously shaved, and keep it in its place by moderate pressure with the fingers. As soon as a red zone can be perceived round the glass, we may be certain that the vesication is completed; in most cases thirty seconds are sufficient to obtain this result. There only remains, then, to remove the apparatus, wash the part, and take off with dissecting forceps, the epidermis, which comes off easily and in one flake. The subsequent dressing may be varied according to circumstances, whether counter-irritation or the endermic administration of medicines be the object. *Prov. Med. Journ., Feb. 3, 1844, p. 360.*

111.—REMOVAL OF UTERINE POLYPI.

[Dr. Quackenbush, of Albany, N. Y., publishes a case of uterine polypus, in removing which, he uses an instrument somewhat different from that in common use in this country. He describes it as follows:]

The instrument I used consists of three small rods, one eighth of an inch in diameter, eight inches in length, and perfectly straight. Two of the rods have each a small hole at one end, large enough to admit the ligature. The other rod has a slip at one end, large enough to allow the first two rods to pass, and at the other end a shoulder, around which the ligature is to be fastened. The instrument is to be applied in the following manner:—The two rods armed with the ligature are placed side by side, and, guided by the finger, are to be passed up the vagina along the polypus, till their upper ends reach that part of the stalk round which the ligature is to be applied. Then the rods are to be separated and moved quite round the polypus, so that a portion of the ligature will encircle the stalk: now the loop of the third rod is to be slipped over the other two, by which means they are drawn together; which being effected, the two rods are to be withdrawn, and the ends of the ligature with them. You now fasten the ligature around the shoulder of the rod, and leave nothing in the vagina but the simple rod. Such is the instrument I wish to introduce, and which, I think, possesses three advantages over the one generally used. 1st. It is much more simple, and easily constructed. 2d. It is much more readily applied: and, 3d. It is much smaller, and will consequently cause much less irritation during its application. *Amer. Jour. of Med. Sciences, January, 1844, p. 244.*

112.—TREATMENT OF BUNION.

Mr. Humpage recommends that the bunion be kept constantly covered with lint dipped in warm water, this being well defended also by oiled silk. The best mode of applying the latter is to cut a strip about half an inch in width, and three or four inches long, turning it round the affected member. The lint should be changed night and morning, and any hardened cuticle should be gradually peeled off. When matters are improved, the continued application of the lint will not be necessary, but the oiled silk should be constantly worn, to prevent a return of the disturbance.

Med. Times, Feb. 10, 1844, p. 333.

113.—TREATMENT OF GANGRENOUS INTESTINE IN HERNIA.

In a case of hernia, published by Dr. Paul, of Elgin, in which the operation was deferred too long, by the refusal of the patient to submit to it, the different tissues were so thickened from inflammatory action, that it was with much difficulty that the bowel was exposed, and it was then found to be completely gangrenous. The peritoneum was so adherent to the bowel, that on separating them by the most careful dissection, the bowel burst.

The opening in the intestine was made sufficiently large, and a warm poultice was then applied to the wound. So soon as the patient rallied from the immediate effects of the operation, epsom salts in small doses were given from time to time, and in the course of the day, the bowels were freely opened by the wound. The stomach was now retentive, and, except the formation of an abscess in the scrotum, everything went on as favourably as could be wished. The swelling subsided rapidly, and the wound appeared to contract. Little further treatment was required beyond keeping the parts clean, and regulating the bowels when necessary. Some exuberant granulations required to be kept down by caustic. Ten days after, he felt some desire to have a stool by the rectum, and upon making the attempt, he had a copious evacuation. This desire was encouraged by small doses of the sulphate of magnesia, and he continued to have two or three stools per annum daily. The wound now closed up very fast, and very little fæculent matter escaped from it, so that before the end of the 13th week the patient began to walk about, wearing a truss. In two weeks more the wound was entirely closed, and the man resumed his work as a groom. Dr. Paul has lately seen this young man, who continues in good health; his bowels act naturally and with great ease, seldom requiring the aid of medicine. He wears a truss with a flat pad, which effectually prevents the protusion of the bowel; but on its removal, there is an immediate bulging out, apparently a good deal from distension of the bowel with air. The portion of intestine originally involved in the herial tumour, is now evidently adherent to the integuments. *London and Ed. M. Jour. of M. S., Jan., 1844, p. 41.*

114.—NEW TRUSS FOR HERNIA.

[Mr. Francis L'Estrange, of Dublin, has invented a truss which may have some advantages over those generally used, especially in keeping its position, and in being easier to the patient. Its chief value seems to be, that the pad is made elastic by means of a spring placed within it, and so arranged that the pressure is chiefly over the internal instead of the external ring. Mr. L'Estrange says—]

An observation of the anatomy of the inguinal canal, with its internal and external rings, points out the internal ring—that into which the contents of a hernia first obtrude themselves—as the spot on which the chief pressure exercised by the truss should be applied; and it is to accomplish this so desirable object, that the peculiarities of my truss are expressly directed. In general form and mode of application, the truss is like those in common use: the peculiarity consists in the application of a second spring in the pad, fixed to the inside of the main spring, and rising in such a manner that while it makes the pad lie flat along the course of the inguinal canal, the chief point of pressure is at its extremity, which corresponds to the internal ring. By this spring, standing thus upwards and backwards along the course of the inguinal canal, not only is the internal ring closed up, and the whole tract pressed upon, but during the rising and falling of the abdominal parietes in the various motions of the body, the pad is made to accommodate itself equably and efficiently everywhere.

In the case of ordinary trusses, the pubes and external rings are the chief parts which are made to bear the weight, and the spermatic cord and testicle come in for a share of the injurious effects of such a pressure. But, by this instrument, which presses on the space above Poupart's ligament, exclusively, and lies there in virtue of its own intrinsic form, these inconveniences are not at all experienced; and such is the accuracy and steadiness of its hold, that even a thigh strap, to keep it in place, is found unnecessary. The instrument is altogether divested of this latter incumbrance. And such, too, is the uniformity of the pressure, that if the instrument were to be worn continually, night and day, there is every reason to anticipate in many cases a radical cure of the disease. *Dub. Med. Press, Feb. 21, 1844, p. 124.*

115.—THE LIQUOR POTASSÆ.

Given in doses of from 15 to 30 drops, three times a-day—is an admirable remedy in many cases of inveterate skin disease. According to our observations, it is far more efficacious, and perhaps, too, less injurious, than the potash in combination with iodine. The liquor potassæ may be given in milk, beer, decoction of sarsaparilla, &c. With respect to the sulphate of iron as an external application in sycosis, mentagra, &c., we cannot believe that it possesses any curative virtues above those of the sulphate of zinc, or of the sulphate of copper, that are in daily use. The white vitrol is our favourite; and the best way of applying it is by dipping rags of soft linen in a tepid solution of the salt, and covering these with a piece of oil-skin. If used thus, the lotion will not require renewal oftener than night and morning. In some cases, a little hydrocyanic acid may be conveniently added to the solution with advantage. *Med. Chir. Rev., Jan.*, 1844, *p.* 228.

116.—WOUNDS OF THE INTESTINES.—By M. Morrau Boutard.

The object of this gentleman in these cases is to recommend a method of obtaining direct union in wounds of the intestines; in longitudinal wounds, by approximating the edges of the wound by means of suture; in transverse wounds, either by the same method or by invagination. To effect this, the author excises the projecting lip or ring of mucous membrane at the level to which the mucous and serous coats have retracted; the everted mucous membrane, with its epithelium, which prevents all union, being thus removed, on bringing the lips of the wound together, serous membrane is in contact with serous membrane, muscle with muscle, and bleeding mucous membrane with the same structure. If invagination is to be practised, the mucous membrane is scarified and excised to the extent af four millimetres in the portion of the intestine which is to be the recipient; and thus the serous surface of the invaginated intestine is placed in contact with a mucous surface reduced to a condition favourable to union. By this method the author obtains rapid union without diminution of the capacity of the intestine or the formation of valves within it: or if invagination is performed, the calibre of the intestine is lessened in a very small degree.—*Gazette Medicale de Paris.* *Dub. Med. Press, Oct.* 25, 1844, *p.* 359.

117.—TREATMENT OF CHANCRE AND BUBO.—By M. Ricord, Paris.

"Destroy the primary ulcer as early and as complete as possible;" such is our precept. It is founded upon the following fact, that syphilis is at first a mere local disease limited to the spot of its manifestation, and giving rise to symptoms of secondary or constitutional infection only after a time. If that proposition be true, and I would stake my existence upon it, as I have done my professional reputation, it is evident that cauterization will have as good results as when applied to the bite of a rabid dog, and will prevent further mischief. If false, on the contrary, my proposition can have, in its practical application, no injurious consequence whatever. The practice of destroying the chancre at as early a period as possible should be adopted even by those who hold, with Dr. Cazenave, that general infection exists before chancre; for, even in their opinion, the local damage of a sore, whose duration, or future extension, none can foretel, will, at any rate, be prevented. It is argued by some, who admit the chancre to be a local disease, that cauterization may drive the poison into the system. Common sense teaches the folly of such a doctrine, the caustic destroying that very matter, the absorption of which they so dread.

I have *never* seen a chancre, destroyed during the first week of its existence, afterwards give rise to secondary syphilis; and, moreover, a symptom dangerous to the patient himself, and dangerous to others, by its contagious nature, has been, by this method, annihilated. The caustics I recommend are the nitrate of silver, merely applied to the wound during the first twen-

ty-four hours, but at a later period—the third or fourth day, for instance—kept in contact with it for several minutes; and still better, a disc of "paste of Vienna" (lime five, potash six parts, made into paste with spirits), spread over the ulcer and its edges. I prefer caustic to excision, praised by Hunter, because it induces, in the neighbourhood, a degree of inflammatory action, highly favourable to the neutralization of the ulcer. If the extent of the sore, or its previous duration, cause the surgeon to discard all idea of destroying it, it will be well, in most cases, to uncover the wound, except when for such purposes an incision is necessary. The prepuce should not be dragged forcibly backwards, paraphymosis being a troublesome complication. Cauterization may be here again used, not to destroy the chancre as before, but to modify its surface; and in some patients you will find a superficial action of lunar caustic one of the best sedatives of the irritated sore.

During cicatrization it will again be used, at the discretion of the surgeon, to repress exuberant granulations. Some ulcers remain stationary after rapidly advancing towards cure; but no epithelium forms; the surface remains red, smooth, and varnished over, without receding, it is true, but without progressing towards complete cicatrization. I have found, in such cases, desiccation very soon produced by the light application of lunar caustic. During its specific period, chancre should be dressed at least three times a-day, if its suppuration be abundant; during granulation, one dressing in twenty-four hours will suffice. At all times great caution is requisite in removing the lint, in order not to lacerate a tender cicatrix. All local applications may cure the sore. Among them a choice may, however, be made. Greasy substances in general I do not approve of; they frequently develope irritation around the chancre, and even eczematous eruptions, which, by the breaking of their vesicles, may occasion extensive accidental inoculation. Common cerate does little good, but seldom is injurious; when to an ounce of it a few grains of extract of opium are added, it frequently calms the local irritation. The dressing I prefer to all others is lint slightly impregnated with aromatic wine (a decoction of sage, rosemary, thyme, hyssop, mint, &c., in eight times their weight of common red Burgundy). This liquid modifies, as an astringent, the ulcerated surfaces, destroys the inoculable property of their secretion, and *tans* the neighbouring parts, so as to render them harder and less susceptible of irritation. I have, now and then found benefit from the addition of from one to six per cent. of tannin, or extract of opium, according as my object was to calm or to stimulate the sore. Should catarrhal inflammation of the parts complete chancre, lotions, with the five-grain solution of nitrate of silver, will be advantageous. Mercurial ointment I do not approve of in the local treatment. It does not in the least hasten the cure, and not unfrequently gives rise to eczema mercuriale. Repose and a few baths are requisite; and, in most cases, you will find that the local treatment, combined as above, will suffice for the perfect cure of the primary ulcer. Dr. Serre, of Montpellier, gives unbounded praise to silver internally in the treatment of chancre; but, in his cases, the sores having lasted eight or ten weeks, we really cannot see that proof is given of a special action of the drug, inasmuch as sores might have been spontaneously cured within the same period.

Prov. Med. Journal, Oct. 28, 1843, p. 63.

118.—TREATMENT OF BUBO.

In mere congestion of the inguinal glands, the tumours may be dispersed. But should insorption of inoculable matter have taken place into the glands, suppuration is, in my opinion, inevitable. Absolute repose, ice, leeches applied around the bubo, are, however, the most advantageous modes of treatment, and may limit, if not dispel, the suppuration. With regard to the application of ice, I may remark, that if the bubo diminishes during the first forty-eight hours of the application of cold, it may be persevered in; but if

the tumour should not decrease, the ice cannot be continued with safety or utility. On the first appearance of the swelling, compression is decidedly useful; hence the rare occurrence of bubo on the side on which the patient wears a well-made herniary truss. A method which has of late years obtained much favour is the blister dressed after denudation of the dermis with a scruple solution of corrosive sublimate. (Malapert and Reynaud).

When this plan was first spoken of I applied it according to the direction of the inventors to *all buboes*, and found that the average of suppuration was about one-half. Subsequent observation again showed, that when this plan is not followed, *all buboes* being taken into account, one-half certainly escape without suppuration. The advantages of the method consequently sunk in my esteem. The application of bichloride is, besides, exquisitely painful, and causes in most cases indelible cicatrices. I therefore reject this plan as a general method, and prefer it to the subcutaneous division of the glands with a narrow blade. Mercury, praised by J. Bell and Hunter, influences only those buboes which accompany indurated chancre, and is perhaps inert in all others.

Treatment of the Acute Period.—Absolute repose, leeches, poultices, mercurial ointment, and all the apparatus of antiphlogistic treatment, find here their application. Baths are not constantly of use, and their influence must be carefully watched. As to Malapert's method, although strongly recommended by its inventor, it is, in my opinion, to be altogether set aside at this period.

Indolent Bubo.—The application of leeches in small numbers, repeated at no very distant intervals, constitutes an excellent discutient plan of treatment. Resolutive poultices, with oatmeal, warm bricks, blisters dressed with mercurial ointment and repeatedly applied over the tumour, and compression, should form the basis of the treatment. I use for the purpose of compression, a wooden disc covered with leather, and fixed around the abdomen and thigh by means of a strap and two buckles. The compression should be carried as far as it can *without pain*. Discutient frictions, with mercurial or stibiated ointments, and the plaster of *vigo cum mercurio* assist powerfully the cure. If Malapert's method can ever be employed with reasonable hopes of success, I conceive it is particularly in this form of bubo.

Dr. Malgaigne recommends *crushing* the tumour, a practice which the vascular and nervous connections of the bubo should dissuade you from.

The subcutaneous division of the tumour with a narrow bistoury is a method you have frequently seen me adopt. If the tumour is considerable, caustics, and especially the pâte de Vienna, may be resorted to for its destruction.

Suppurated Bubo.—In this form Malapert and Reynaud assert that the tissues become partially thickened from plastic exudation, and that the virulent pus is secreted through the skin by a kind of perspiratory action. I prefer the puncture with a knife, and the operation I perform at an early stage of suppuration. I open the buboes by a large number of punctures, because it is impossible to assert the virulent or non-virulent nature of the pus before the abscess has been opened. In the first instance it is indifferent to me whether a large or a small opening be made, as a chancrous sore and a deformed cicatrix will inevitably occur; but in the latter, a long incision would leave an indelible trace, which is avoided by making numerous punctures.

Prov. Med. Jour., Dec. 16, 1843, p. 904.

119.—MODE OF FORCING OUT COLLECTIONS OF MATTER FROM BONY CAVITIES BY ATMOSPHERIC PRESSURE.

[In a case of collection of pus in the antrum of Highmore, for the evacuation of which the patient would not allow a portion of the bone forming the bottom of the maxillary cavity to be removed, Dr. Buchanan, of Glasgow, adopted the following ingenious contrivance, which no doubt might be made use of for other cases of a similar description. A tooth had previously been extracted which communicated with the cavity, but through which the matter would not descend, owing to well known physical principles.]

A blow-pipe was procured, having the necessary degree of curvature at its smaller end, and a bladder attached to the other end, which was inflated by the patient. The nozzle of the blow pipe was then introduced into the orifice in the bottom of the maxillary cavity, when, on compressing the bladder, the air ascended to the top of the antrum, and forced the matter downwards into the mouth. By this means about one ounce and a half of fœtid matter was discharged; two ounces were collected, but probably at least half an ounce was saliva. The same operation was repeated morning and evening, and a small quantity of matter obtained for some time after.

Lond. and Ed. M. J. of M. S. Dec., 1843, *p.* 1070.

120.—USEFUL HINT ON THE TREATMENT OF CHRONIC RHEUMATISM AND NEURALGIA.—By Dr. JAMES JOHNSON.

A tea-spoonful of brimstone in a small cupful of milk, taken every night at bed time for a week or two together, is one of the best of all remedies that we know of, against old obstinate rheumatic aches, cramp of the legs, the pains that are connected with a varicose state of the veins, chronic sciatica, &c.

The well-known nostrum—the "Chelsea Pensioner"—that has so long had high repute in chronic rheumatism, is mainly indebted to sulphur for its virtues. It may be worth while to mention its composition. It is made thus:—℞. Flor. Sulphuris ℥jj. Pot. Supertartrat. ℥j. P. Guiaci 3j. P Rhei 3jj. Spir. Nucis Myristic. 3j. Mellis q. s. ut fiat electuarium.

The dose, one or two drachms every morning and evening.

Med. Chir. Rev., *Jan.*, 1844, *p.* 240.

121.—POMMADE FOR CHAPS AND FISSURES OF THE TOES.

One of the most annoying effects of secondary syphilis is the formation of fissures on the internal surface of the toes; they are usually very painful, are surrounded with a red areola, and secrete a syphilitic matter. In a few cases, gangrene has been known to supervene, and to destroy one toe after another. An ointment, containin litharge, white precipitate, and a few drops of laudanum, has been used with very marked success in such cases, in many of the hospitals of Germany. It is also much recommended in the serpiginous and phagedænic ulcers, which occasionly supervene upon vaccination in children of a scrofulous or syphilitic constitution. The process of cicatrization is often promoted by bathing the sores, at the same time, with a decoction of hemlock and marsh mallows.

Med. Chir. Rev., *April*, 1844, *p.* 515.

122.—ANODYNE POMMADE.

Take of Galen's Cerate, 31 parts; extract of Belladonna, 8; acetate of Morphia, (previously dissolved), 3. Mix well together.

This pommade is exceedingly useful in cases of muscular pains, chronic rheumatism, &c., when rubbed on the affected parts. *Ibid*, *p.* 515.

MIDWIFERY.

22.—EFFECTS OF ERGOT OF RYE ON THE FŒTUS IN UTERO.—By T. E. Beatty, M.D., M.R.I.A., Fellow of and Professor of Midwifery to the Royal College of Surgeons in Ireland, &c., &c., &c.

[Dr. Beatty thinks, with many other respectable practitioners, that ergot of rye produces a noxious influence on the nervous system of the infant during parturition; and to this effect may be attributed its fatal tendency in many cases, independent of the asphyxia, which is evidently produced, in other cases, by the continued and uninterrupted action of the womb for a certain length of time. Dr. Beatty relates a number of cases, and concludes, that in most cases, if the labour be accomplished within *two hours* after the exhibition of the medicine, the bad effects on the child will not be seen: on the contrary, when the time exceeds two hours, the danger to the child will be great. "The effects are certain spasmodic conditions of the muscles of the whole body, alternating with relaxation, or palsy, and accompanied by evidences of derangement of the functions of the cerebro-spinal system," produced, according to Dr. Beatty's opinion, by "a direct poisonous effect on the infant, before delivery." After relating a number of cases to elucidate his opinions, Dr. Beatty says—

In the cases just recorded, the condition of the infants was very unlike that of still-born children delivered under ordinary circumstances, and when no ergot had been administered to the mother. *The distinguishing characteristics are, the general lividity of the surface, the universal rigidity of the muscular system, producing the stiffened limbs and clenched hands in those infants in whom life was extinguished; and the remarkable kind of alternating spasm and palsy which supervened in those that were resuscitated.* . The nearest approach to this state, in new-born children, and that which most resembles it, is the condition in which children are born dead, with symptoms of congestion of the cerebral vessels, in whom, it is true, we find the countenance suffused and livid, but the peculiar affection of the muscular and nervous systems is wanting. Children presenting this appearance of congestion are usually born after difficult labour; but, in the instances above detailed, this was not the case; some of them were tedious, but none of them difficult.

That the *fœtus in utero* is capable of being influenced by the circulating fluids of the mother, is proved by the well-known fact of the communication of syphilis, small-pox, &c., to the unborn child; and that substances, taken into the stomach of the mother, can affect the infant, is shown by the experiments of Majendie, who found, in the fœtus of animals, the odour of camphor, and the colour of madder, with which he had fed the mothers. It is still further established by the case reported by M. D'Outrepont, of a fœtus poisoned by opium taken by the mother.

Admitting this point to be established, it remains to be seen, whether the effects described above, and imputed to the direct agency of the ergot of rye, bear any resemblance to the effects produced by the introduction of this drug into the circulation. Upon this point we have very satisfactory information in the elaborate essay of Mr. Wright, already alluded to. Before proceeding to recount the results of his experiments, he takes notice of some of the epidemics of *spasmodic ergotism*, caused by eating bread made of rye containing a large portion of ergot, which visited different parts of the Continent during the last century. This disease almost devastated Freybourg, and overran many of the cantons of Lusatia, Saxony, and Sweden. According to Videlius, the patients were attacked with spasms and convulsions, accompanied with violent pains, which were said to equal those of luxation, and to be similar in their type. In some instances the

patients became lethargic, and, when recovering from such state, gave, respectively, signs of stupidity, intoxication, and extreme lassitude, after which the fit subsided for a time. But there generally remained vertigo, *tinnitus aurium*, *nebulæ oculorum*, rigidity of the members, and excessive feebleness.

[The effects of this medicine, when introduced into the circulation, may be learnt from the experiment of Mr. Wright.]

It is plain that the longer the time that elapses after the medicine has been taken into the stomach of the mother, the more certainly will its noxious principles be absorbed and mixed with her blood; the more certainly, also, will these principles be transmitted to the fœtus by the constantly arriving current of blood through the umbilical vein, and the more likely will the fœtus be to suffer from their effects. From these observations I think we are justified in coming to the conclusion, that the administration of ergot of rye to a woman in labour is attended with danger to the child, whenever a time sufficient for the absorption and transmission of its noxious properties elapses before the child is born; and from the cases above stated I am inclined to place two hours as the limit of safety, and to consider a prolongation of labour beyond that period as perilous to the infant.

Dublin Journal of Medical Science, May, 1844, p. 218.

124.—PUERPERAL FEVER.—By Robert Storrs, Esq., Doncaster.

[We publish the substance of Mr. Storrs's paper, not so much to prove the contagiousness of certain forms of puerperal fever, respecting which opinion there can be very little doubt, but to show the mode by which the practitioner may carry the contagion from one patient to another: and we would particularly call the attention of every obstetric practitioner to this interesting subject. Mr. Storrs thinks that medical men do not go far enough in considering this disease to be propagated by medical men and nurses from one puerperal patient to another. He thinks that it is quite as frequently carried by the medical attendant to each fresh labour-case from some original infectious case, whether of gangrenous erysipelas, or typhus fever, or of whatever animal poison besides may hereafter be found to produce it. In some cases, which occurred in his own practice, he has no doubt that he took it to each patient from a case of gangrenous erysipelas with subsequent abscess, which he was attending at the time of these unfortunate occurrences. And such may be the case of other practitioners. They think that they convey the contagion from one puerperal patient to another, instead of from one common source. They probably lose a puerperal case, and immediately take every precaution to prevent a similar occurrence, by careful ablution, and a complete change of dress. Nevertheless, the next case of labour is attended with the same fatal result; simply because the practitioner is still in attendance on the case which originally gave rise to the mischief. Mr. Storrs was not only himself convinced of this fact, but wished to ascertain the experience of other practitioners, and for this purpose he wrote to several of those who had met with the disease in their practice. Among the rest to Mr. Reedal, of Sheffield, from whom he received the following remarks.]

At the time of my attendance on those females who were subsequently attacked, I had, under my care, a young man, labouring under sloughing bubo, combined with erysipelatous inflammation of the scrotum and nates, of a malignant character, which required dressing daily, and which ultimately proved fatal. It may be somewhat corroborative of the supposed dependence of this form of puerperal fever on an animal poison generated by this sore, and propagated by contact, that the sister of the young man, who waited upon him, was seized with erysipelas of the head and face, of a very low, typhoid nature, which terminated fatally in a few days.

It would be unnecessary in me to repeat my implicit belief in the contagiousness of this disease, and its connection with this case of erysipelas;

but if further confirmation were needed, I might adduce the circumstance, that immediately antecedent to my taking the charge of the above case of erysipelas, I had met with no cases of puerperal fever, and that upon discontinuing my attendance upon the young man (which I immediately did, upon the belief that I was the medium of conveying infection from him to the puerperal cases), I had no recurrence of the puerperal fever.

I may give it as my opinion, that in all my cases the disease had one common origin, viz., the bubo, and was not communicated from case to case. I should also wish to state that at the same time those cases occurred to me, Mr. Parker, then my pupil, but now resident in Sheffield, attended many midwifery cases, and all recovered well. He never visited the erysipelatous patient. The above cases were not confined to one locality, but were living in different parts of the town, showing that the disease did not arise from any local cause. As I have previously stated, I had very strong suspicion, after the first case or two, that I was conveying the infection, but could not discover how until the sister was seized. This was the most malignant case of erysipelas I ever witnessed. I then began to think whether I was not conveying the poison from this source.

[In these as well as in all other cases reported, treatment proved unavailing. Mr. Storrs proceeds to say—]

Three surgeons, residing in the same town, attended the post-mortem examination of a patient who had died from gangrene after an operation for strangulated hernia, and were all of them employed in handling the diseased parts. One of them was called from the inspection to a case of labour, which terminated in fatal puerperal fever; he had others in rapid succession. The other two surgeons had also fatal cases of puerperal fever within a day or two after the same inspection. On casually meeting, they mentioned their misfortunes to each other, and were thus convinced of the origin of the disease. They all abandoned practice for a short period, and had no more of it. I would here briefly draw the attention of the reader to the remarkable and striking fact of Mr. Reedal having five fatal cases of this horrid malady in labours which he attended so immediately after dressing a case of malignant erysipelatous disease, and on his leaving off attendance on this case, having no more of it, and that neither his pupil even, nor any other medical gentleman in Sheffield, had any instances of it among their labour cases; also that Mr. Sleight had two cases while in attendance on a case of erysipelas; that Mr. Hardey's cases also arose while he was in attendance on a case of sloughing abscess and of erysipelas. And again, that three surgeons were simultaneously the means of spreading puerperal fever from one post-mortem examination of a case of gangrenous erysipelas—a combination of evidence I think sufficient to convince the most sceptical that this disease produces a subtle animal poison, which is instrumental in propagating, when puerperal women are subjected to its influence whose predisposition favours it, a disease in about thirty-six or forty-eight hours afterwards of the most inflammatory, prostrating, and violent character—a disease which stamps death on the features and in the symptoms immediately on its occurrence.

[Mr. Storrs next enumerates a great many cases recorded by different practitioners, all of which prove that each disease had a common origin from some case of erysipelas or sloughing ulcer. He concludes his very interesting paper with the following advice]

As it is well to be always guarded against such a misfortune, I think it desirable for midwifery practitioners to avoid attending labours in the same dress in which they attend their ordinary patients, especially the coat, as this garment must be the one most likely to be the means of conveying fomites; and at any suspicious period, when typhus or erysipelas are prevailing, to carry out the same carefulness even in the after-attendance on labour cases. I should also, after a post mortem of any kind, or after any operation upon any case of erysipelas, or of typhus, recommend the most careful ablutions of the hands, and for the surgeon to avoid attending on a labour in

any part of the dress in which such operations have been performed, not forgetting the gloves, as the hand and arm are the chief instruments of contact. Where, however, the disease has been unfortunately once set up in a practice, an absence from home for a fortnight or three weeks, a total change of raiment, the most careful ablutions, and a perfect avoidance of every case likely to have been the source of animal poison, should alike be adopted by the practitioner. *Prov. Med. Jour., Dec. 2, 1843, p. 163.*

[In the Provincial Journal for January 13, 1844, p. 207, Mr. Elkington, of Birmingham, relates several cases which in a remarkable degree confirm the previous facts and opinions.]

135.—EXTIRPATION OF DISEASED OVARIA—By one of the Editors of the Lancet.

[A very able, and we think an impartial, review of this subject, is contained in one of the editorial paragraphs of the Lancet. It is as follows:—]

The excision of dropsical ovaria, by what is called the large abdominal section, having lately attracted considerable attention in the surgical world, we propose, by a reference to general experience, and a numerical view of such facts as have been put on record, to examine the question whether that operation be justifiable under ordinary circumstances? Such a question with respect to any operation for the removal of a diseased part, hinges mainly on the following considerations:—1st, the degree of danger or suffering entailed on the patient by the disease; 2dly, the degree of danger to life attendant on the operation; 3dly, the sufficiency of the operation for the desired end; 4thly, the sufficiency of other means, comparatively unattended with danger, for the alleviation of the symptoms; and lastly, the certainty with which the disease can be diagnosticated, a very important consideration in every case supposed to demand a capital operation in surgery.

First, then, of *the danger or suffering entailed on the patient by ovarian disease*. Such disease is seldom of a malignant nature, for although most ovarian tumours contain masses of matter of a scirrhous hardness, these masses are usually of a sarcomatous rather than of a truly scirrhous kind, and do not pass into ulceration. The disease in a few instances advances rapidly, but, in a great majority, is of an indolent character. In many cases it never increases to any great size, though in others it attains an immense magnitude, contracts extensive adhesions, and, by its mere pressure, causes severe constitutional irritation, peritoneal inflammation, and other disastrous or fatal effects. Till the tumour has attained a large size it very rarely occasions any serious constitutional disturbance, and a vast number of women carry such tumours through a considerable portion of their lives, without material derangement of their health, and finally die of some other disease. On the whole, then, we believe that general experience will bear us out in affirming, 1st, that ovarian disease is frequently fatal; 2dly, that more frequently it exerts but little appreciable influence on the duration of life; 3dly, that it is seldom attended with severe suffering except in a very advanced stage of its progress, which progress, in most cases, is extended through many years; lastly, that in a considerable number of cases it neither perceptibly curtails life, nor attains such a magnitude as to occasion severe suffering to the patient, or to impair her general health in any remarkable degree. It is perfectly evident that, in such a disease, no operation which greatly endangers life would, in a general way, be justifiable. Let us therefore consider,

Secondly, the degree of danger to life attendant on the excision of diseased ovaria. On this subject a just conclusion can only be arrived at by a numerical reference to all the cases in which the result of the operation has been recorded. There are now on record, as far as we know, thirty-three cases in which the large abdominal section has been practised with the intention of extracting a diseased ovarium. In ten out of these thirty-three

cases the operation has been fatal, giving a mortality of not much less than one in three. We might here terminate our inquiry, since it is quite clear that an operation which affords the patient not much more than two chances out of three of escaping with life, ought, generally speaking, to be considered as entirely out of the question for the cure of a disease which, in a majority of instances, neither very materially shortens life nor occasions intolerable suffering. But we will proceed with our investigation, because, unfavourable to the operation as the facts above stated may be, the view of it that might be deduced from those facts simply, without any further details, would still be far too favourable. We proceed, therefore, to remark,

Thirdly, on the sufficiency of the operation for the desired end, namely, the removal of the disease. Let us here again have recourse to numbers. In seven out of the thirty-three cases adverted to above, either no ovarian tumour existed, or the extraction of the tumour was prevented by insurmountable obstacles; so that, from these data, setting aside the chance of being killed by the operation, the patient has rather more than one chance in five of undergoing all the torture to no purpose whatever. Further, it might naturally be expected that such ineffectual attempts would be attended with greater mortality than the actual performance of the operation, and accordingly we find that, of the seven cases in which the operation has been attempted but not accomplished, either through absence of the presumed disease, or the presence of insurmountable obstacles, no less than three have died. But we will now comment,

Fourthly, on the sufficiency of other means comparatively unattended with danger, for the alleviation of the symptoms. A common ovarian tumour, in the earlier stages of its progress, causes no immediate danger to life, and there is, in a large proportion of cases, ground to hope that it may never do so. Under such circumstances, it would appear to us an act of insanity, if not worse, to undertake an operation for its removal, which has been shown to bring the life of the patient into the most imminent peril. On the other hand, when the tumour has attained a great magnitude, and occasions suffering and danger to the patient, relief may generally be obtained by tapping, to diminish the distension of the tumour, leeches and counter-irritation to obviate inflammatory action, and anodynes and other appropriate means to allay constitutional irritation. These means will, indeed, require to be frequently repeated; but is not that preferable to an operation which offers little more than two chances in three of escaping with life, and that operation resorted to under circumstances which render the possibility of detaching the tumour very problematical, on account of the likelihood of extensive adhesions having formed? We hold, then, that in the case of such a tumour, palliative measures are to be preferred; and we entirely subscribe to the opinion of William Hunter, "that a patient will have the best chance of living longest under it who does the least to get rid of it."

But, lastly, *of the certainty of the diagnosis in ovarian disease.* We find, in surgical writings, ample directions for discriminating between ovarian dropsy and ascites, and this, doubtless, is not difficult; there are, however, various encysted and other abdominal tumours, between which, and the disease of which we are treating, the diagnosis is by no means easy, while the diagnosis between ovarian and some uterine tumours, is to the last degree difficult; Dr. Henry Lee pronounces it impossible. We think, therefore, on the whole, that they who have hitherto undertaken the perilous operation of extirpating diseased ovaria, have been more fortunate in their diagnosis than future operators are likely to be. Mr. Lizars candidly records one case in which he operated, where no tumour at all was to be found, yet that gentleman is an able and experienced surgeon.

To conclude, in expressing our decided conviction that the extirpation of diseased ovaria ought not to be admitted among the commonly recognised operations of surgery, we do so less on the ground of what is called general experience, which, after all, may be considered as merely synonymous with general opinion, that on the statistical ground afforded by a review of the

results of the cases on record. We would ask any reasoning man, whose mind is unbiassed by a personal interest in the operation, are those results such as to justify its repetition under ordinary circumstances? The writings that have been published on this subject are of a very mixed character. Dr. Clay's work is a mere piece of special pleading for the operation, conducted at the expense of a complete, though, we trust, unintentional, misstatement of recorded facts. Thus, he states the number of cases that had been operated on up to the time of his publication, as thirteen, of which twelve were successful, and one fatal; whereas the real number of operations then on record was twenty-eight, whereof nine had been fatal. Among the successful cases, also, he reckons two by Mr. Lizars, in one of which there was no tumour at all, and in the other the tumour could not be removed; and a case by M. L'Aumonier, in which an abscess within the fallopian tube was mistaken for a dropsical ovary. Pretty success, truly, where a woman runs the risk of her life, simply for the honour of being made the subject of an experiment in surgery! Some of the cases recorded by different writers are very unsatisfactory in their details. Mr. Lizars, Mr. Walne, and others, have evinced the most perfect candour in their statements, and a surgical boldness and skill in the treatment of their patients, which are highly creditable to them. We cannot, however, but regret that skill and daring should be thrown away on an undertaking which is discountenanced by the plainest appeal to facts. We do not assert it to be impossible that a case might occur, presenting a concatenation of circumstances, which would render the operation warrantable; but what those circumstances could be, it would, we apprehend, not be easy, *a priori*, to predicate, and, in a general way, the operation cannot, in our opinion, be too strongly condemned. *Lancet, March* 30, 1844, *p.* 45.

[In a review of the same subject in the Edinburgh Medical and Surgical Journal for April, the operation is likewise looked upon unfavourably. Out of forty-two cases which are there referred to, there were thirty-three in which the tumours were extirpated—and of these, eleven died; in nine cases in which the tumours were not extirpated, three died; so that we find one in three died whether the operation was completed or not. The reviewer then goes on to say:]

It is scarcely, however, to be expected that all the fatal cases in which the operation has been performed, have been published. It would be perfectly legitimate, therefore, to conclude that the fatality is greater than these tables prove it to have been. Now, the question for consideration is, are we warranted to recommend or to perform an operation which proves fatal to one out of every three cases? that is to say, is it allowable to sacrifice one human being for the benefit of two survivors? Those who have appeared as the most strenuous advocates for the operation, assert that the abdominal incision for the removal of diseased ovaria is as legitimate an operation as amputation of the thigh, the operation for hernia, for stone, or other great surgical operations, seeing that the mortality is not greater than that which attends these operations. We shall, therefore, very shortly, attempt to point out the proper light in which we conceive this question ought to be viewed.

If we look alone to the mortality, independent of all other considerations, and assume the above tables as correct in giving the ratio of mortality for the large abdominal incision, we find that the mortality is not greater than for other great surgical operations. Thus M. Malgaigne has shown that in all the Parisian hospitals, from 1836 to 1840 inclusive, 201 amputations of the thigh took place, but of this number 126 died; and the result of amputations of all kinds showed a mortality of 38 in the 100 for pathological causes, and 49 in the 100 for traumatic causes. M. Textor, on the other hand, in mentioning the statistics of strangulated hernia treated at Wurtzbourg from 1836 to 1842, mentions that, of those subjected to an operation, 32 were cured and 24 died, or 3 out of every 7 cases; while at Paris the mortality was 4 out of every 7 cases. All this would seem, therefore, to be

a strong proof of the legitimacy of the abdominal section, seeing that the mortality is not so high for it as for these surgical operations. This is quite true; but the difference between the one operation and the other is this, that the one saves 3 out of every seven patients who could not by possibility survive even a few days, were the operation not performed; and the other sacrifices one unnecessarily to prolong for a few months or years the lives of two, who would, perhaps, after all, have lived as long had no operation been performed. In the one case, the amputation, or operation for hernia, is performed for the legitimate purpose of saving life which otherwise could not be saved; in the other case as the abdominal section, life is heedlessly sacrificed, in the attempt to relieve what, after all, is only a burden, and has never yet been proved to shorten the average duration of human life. In the one case the surgeon is acting in conformity with the highest principles of humanity and morality, doing all he can to save the life of a fellow-creature; in the other, while we cannot deny that he may conscientiously believe that he is undertaking what is to save life, we fear he is influenced more by the eclat of performing a great and dangerous operation.

But, independently of this moral objection, and we hold it to be, of itself, unanswerable, there is another, which the history of the cases of abdominal section painfully point out. This is the impossibility of detecting beforehand whether the case be a proper one for operation or not. Thus the above table shows, that, out of forty-two cases which were operated on, in nine, either no tumour was found, or it had contracted such firm adhesions to the surrounding organs that it could not be removed. Now, we would calmly ask those men, who defend this operation, if it be consistent with the common principles of surgery to risk, unnecessarily, the life of every fourth patient by performing a dangerous operation, which will fail to relieve her in any way; and which will necessarily kill one out of every three subjected to it? Is it not, on the other hand, the first principle of the surgical department of the healing art, that an operation is never to be performed till all the resources of art have failed to relieve the patient, and the delaying an operation would be attended with fatal consequences? Is it not, in fact, to save life, that every great operation is performed, and only then when it is apparent that it offers the only means of preserving the life of the individual?

But what is the case with those labouring under ovarian diseases? They may not only survive for years, but, by appropriate medical treatment, the tumour may, in many cases, be greatly reduced, or rendered stationary. But, even if this desirable end should not be attained, we know that life may be prolonged for an indefinite period, without having recourse to extirpation. The tumour may be again and again evacuated of its fluid contents, with comparatively little risk to the patient's existence; and those cases in which the tumour is more solid are the very ones which, even the advocates for the abdominal section, allow are unfit for operation.

An unbiassed and calm review of all these points cannot fail to satisfy every one but those who take this means of bringing themselves into notoriety, that the abdominal section, for the removal of ovarian tumours, is uncalled for; is an useless sacrifice of human life, and never can become one of the legitimate operations of surgery.

Edinburgh Med. and Surg. Journal, April, 1844, *p.* 469.

[Dr. Cormack ends a very excellent notice of the different operations of this kind by the following objections:]

1*st. The difficulty of forming a Diagnosis in cases of Ovarian diseases.*—The impossibility of ascertaining either the existence of any disease of the ovaries, the real character of such disease, or the adhesions or connections which it may have originally held, or have formed during the progress of its growth, has been freely granted by every experienced physician and surgeon who has directed his attention to the subject, and is also made abundantly manifest by the cases of extirpation which have been recently record-

ed. In the first of Mr. Lizars' cases no tumour existed, and the same mistake was committed by Dohlhoff, of Germany, and Dr. King, of Saxmundham. Mr. Lizars in one case, Drs. Granville, Dieffenbach, and Martini, also, in one each; and Dr. Clay, in two instances, laid open the abdomen, and were forced to desist from further operative procedure, in consequence of the connexions which the mass had formed. In many of the cases adhesions existed, which were not suspected before the operation.

2*d. The danger of Hæmorrhage.*—The extent to which the incisions must be carried, and the adhesions which must be destroyed, in many cases, before the tumours can be removed, would lead us, *a priori*, to dread the consequences of loss of blood. In Dr. M'Dowall's third case the patient nearly lost her life from the loss of blood. In Mr. Lizars' second case, hæmorrhage occurred two hours after the operation, so profusely, as to make the attendants give up all hopes of a favourable result; and, in Dr. Clay's fifth case, the loss of blood was considerable, and the patient expired an hour and a half after the completion of the operation.*

3*d. Danger of Peritonitis.*—Some of the recent writers treat very lightly of the risk of inflammation following the peritoneal section, but Mr. Lizars' third case proved fatal from this cause; in all probability Dr. Clay's fourth case also, but no dissection took place; likewise one recorded by Dr. Granville, in the *Medical Gazette*, during the present year; and lastly, Mr. Keys.

4*th. The nature of the disease does not sanction such a violent remedy.*—In a large proportion of cases, the tumour constituted a mere *incumbrance*; indeed, it is distinctly stated so in almost every case. The patients might, therefore, have lived the natural period of their lives without having suffered a tithe of the torture they had to suffer during the performance of the operation and protracted convalescence.

In conclusion, leaving altogether out of sight the immediate and imminent danger to which they were exposed, it must be remembered that all the recent *successful* (?) cases were published very shortly after the operations were performed, and before a sufficient length of time had transpired to test the permanency of the cure; and it must also be borne in mind, that the tumours contained far more solid, brain-like matter than is usually met with in simple encysted ovarian tumours, affording too good grounds for suspecting the return of a specific disease.

Lond. and Ed. Med. Jour. of Med. Sci., Jan., 1844, *p.* 67.

[Mr. Samuel Crompton, of Manchester, has drawn our attention to the unfavourable opinion which Dr. William Hunter entertained respecting this operation, in his "Medical Observations and Inquiries," Vol. 2, p. 41.

Med. Gaz., Feb. 2, 1844, *p.* 569.

* Mr. W. A. M. Heath, Lecturer on Midwifery, in the Manchester School of Medicine and Surgery, has narrated a case in the *Medical Gazette*, which proves the correctness of the remarks made above. His patient, a woman 46 years of age, had observed her bulk to be increased twelve months previous. He says, "after repeated examinations, and most careful manipulations, by myself and colleagues, made at different times, and in every variety of manner, the conclusion arrived at was the presence of an ovarian tumour; and it was our UNANIMOUS OPINION, that the condition of the patient, and the mobility of the tumour, made it a fair case for extirpation by the abdominal section." The operation was performed at 11 o'clock, A. M., on the 21st of November. It consisted of an incision from the ensiform cartilage to the pubes, and "the tumour now came into view, and was recognised as the uterus distended by solid matter." It was removed; the patient sunk, and died at 5 o'clock on the following morning. The growth consisted of the fibrous, or hard tumour of the uterus.

198.—DARK ABDOMINAL LINE EXTENDING BETWEEN THE PUBES AND UMBILICUS AFTER DELIVERY.—By JOHN ROSS CORMACK, M.D., F.R.S.E., Physician to the Royal Infirmary of Edinburgh, &c.

[Some little time ago Mr. Turner published a paper in the Edinburgh Monthly Journal, describing, in recently delivered females, a dark abdominal line or stripe, extending between the pubes and umbilicus, and commonly going up even to the ensiform cartilage. Dr. Cormack has further investigated this subject, and gives us his views in a series of interesting cases. He comes to the conclusion that this appearance, as a medico-legal test, cannot be depended upon; as it often manifests itself in males, and in females independent of delivery. It may be valuable, however, when other and more certain symptoms of delivery are present. Dr. Cormack's conclusions are as follows:—]

1. Some days after delivery at the full time, a dark abdominal line, such as Mr. Turner has described, is almost invariably present. The deepness of its hue is modified by various accidental circumstances, but particularly (like the areola) by the complexion of the female.

2. During menstruation and pregnancy, after abortions and miscarriages, the same line is also most commonly seen; but generally it is less distinct than after a nine months' gestation.

3. The dark abdominal line may be seen, in females, quite unconnected with pregnancy, delivery, or any affection of the uterine system.

4. The dark abdominal line occasionally appears in males, when the mucous membrane of the intestines, bladder, and urethra are affected; [and possibly, it may be added, in other circumstances.]

5. From the diversity of causes which give rise to this appearance, its presence can be of no use whatever as a medico-legal test of delivery; although its absence in suspected cases, might, in connection with other circumstances, strengthen the belief that the woman had not been recently delivered. *London and Edinburgh Med. Journ. of Med. Sci., Feb.*, 1844, *p.* 127.

[In the Dublin Medical Journal for May last, is a letter from Dr. Montgomery, in which he claims the priority in pointing out this indication of pregnancy; and we certainly think he substantiates this claim, as we do not find that the appearance was even alluded to in any work before the one published by him in 1837, on "the signs of Pregnancy and Delivery." In this work occurs the following sentence, among others of a similar kind:—"In some cases there is also to be seen, extending between these two points (the pubes and umbilicus) a brown line, of about a quarter of an inch in breadth, especially in women of dark hair and strongly coloured skin," (p. 304.) Dr. Montgomery concludes his paper, just published in the above journal, as follows:—]

In conclusion, I beg to observe, that I have, in a few instances, observed, accompanying the dark abdominal line, another appearance of a similar kind, not hitherto described by any one, as far as I am aware. It consists in a dark-coloured circle or areola, surrounding the umbilicus; extending, in breadth, about a quarter of an inch all round that part; and in general, but not always, varying in depth of tint according to the colour of the hair, eyes, and skin of the woman. Unlike the mammary areola, there is no turgescence, or elevation of it above the surface of the surrounding skin, neither are there any prominent follicles upon its disk. One specimen of this I saw within the last few days, in a lady with very dark hair and eyes, who had just given birth to a child, which there was every reason to believe, had been dead nearly a month. The abdominal line was faintly marked, as was also the circle around the umbilicus, and the mammary areola looked faded. The first time I observed this appearance was in 1840, and it was its extreme depth of colour which arrested my attention, while in the act of adjusting a binder on the patient. It is of much less frequent occurrence than the dark abdominal line, but I have never as yet seen it, except in the puerperal woman. Whether it is ever produced under circumstances uncon-

nected with pregnancy, remains, as far as I know, to be determined by more extended observation.

The following are the conclusions, in reference to this dark line, to which my observations have led me:—

1. It is generally, but not always, present in puerperal women, and in women advanced in pregnancy.

2. It is occasionally visible at early periods of gestation. I saw it faintly, but quite perceptibly marked, in a lady with very dark hair and eyes, who had just miscarried, in the second month. Consequently

3. When it is visible, it is no proof of the woman having been delivered at an advanced period of gestation, or of a viable child, as supposed by Mr. Turner.

4. It is occasionally observed in states altogether unconnected with gestation. In one case I saw it distinctly marked in a girl of about ten years of age, who was affected with mesenteric disease; and, in another instance, I found it well developed in a lady labouring under ovarian tumours and enlarged liver.

5. Its depth of colour is, in general, proportioned to the darkness of the hair, eyes, and skin; but to this there are many exceptions.

6. It is, in general, more strongly coloured, and more distinctly defined, a day or two after delivery, than before or during labour.

7. Its shape and depth of colour are apt to vary at different times, in the same case, without any obvious or intelligible cause.

8. I have not seen the *umbilical areola* except at the time of mature delivery; but, I take for granted, as a matter of course, that it may, like the dark line, be observed during gestation.

Dublin Journal of Med. Sci., May, 1844, p. 298.

127.—STERILITY.—By MARSHALL HALL, M. D., F.R.S., &c.

[Dr. Marshall Hall throws out a suggestion on the treatment of sterility, which may be tried under some circumstances. There is an extraordinary sympathy between the mammæ and the uterus, so that the functional condition of the former influences that of the latter. "This sympathy is partly nervous in its character, partly vascular. As a reflex action the uterus is made to contract after parturition, by applying the newly-born infant to the mammæ. As a vascular sympathy, uterine hæmorrhage and leucorrhœa occur from undue lactation." Many cases of sterility, of course, arise from organic defect; but when the cause is of a functional and less permanent nature, it becomes a question, whether or not the uterus can be stimulated so as to assume a healthy functional action in the way suggested by Dr. M. Hall, who says]

Now, as I have already stated, for one week before, and at the return of, the catamenial period, or flow, (when a vesicle probably bursts), the mammæ become tumid with blood, and tender from augmented sensibility; in a word, there is the condition which, after parturition, leads to the secretion of milk. Might not this secretion be actually excited under this condition by the appropriate, or other stimulus; that is, might not the mammæ be brought into the condition which obtains after parturition? Might not an infant be applied and suckled? And might not the uterine system, in the married and the childless, be brought into the healthy state required for conception? In this manner, not only the female, but the male mammæ have been excited to the secretion of milk, in such abundance, as to supply the infant with abundant nourishment. (See Good's Study of Medicine, ed. 2, vol. iv., p. 79.) But the case, most to our purpose, is that of a servant-maid, given by M. Belloc, in his "Cours de Médecine Légale," 1811, p. 70:—"Une fille de service, obligée de faire coucher dans sa chambre un enfant qu'on voulait sévrer, et qui dérangeait son repos, imagina de lui donner son sein pour apaiser ses pleurs, qui l'importunaient; au bout de peu de temps cette fille eut assez de lait pour satisfaire cet enfant."

My suggestion, then, is, that when the mamma is excited at the return of the catamenial period, a robust infant be repeatedly and perseveringly applied, in the hope that the secretion of milk may be excited, and that the uterine blood may be diverted from the uterus and directed into the mammary vessels, and that a change in the uterine system and a proneness to conception may be induced. I would propose that the patient should sleep, for one week before, and during each catamenial period, with an infant on her bosom. *Lancet, March* 23, 1844, *p.* 10.

128.—TARTAR EMETIC IN TARDY LABOUR.

Dr. Gilbert, of Gettysburg, says we are frequently called to cases in which labour has commenced, but the progress is slow, both on account of the insufficiency of the uterine contractions and rigidity of the os tincæ. These cases are most frequently found to occur in patients of tense fibre, and rather robust constitutions. Bleeding produces some relaxation, but rarely hastens the labour; since, in most instances, it does not add anything to the vigour of the pains. Several years ago, while in attendance upon such a case, wishing to expedite the labour, I felt a very strong desire to administer the *secale cornutum*, but was prevented by reflecting upon the well-ascertained effects of that powerful agent under such circumstances. The question whether some other article of the *materia medica* might not be advantageously exhibited, then presented itself to me. Relaxation of the *os uteri*, and exclusive contractions, were the principal desiderata. Emesis in the commencement is always looked upon as a symptom of labour; *ergot* also produces nausea, and frequently vomiting. In evacuating the stomach, the diaphragm, abdominal muscles, &c., are called into violent action; these same muscles aid the uterus in its expulsive efforts; hence emesis may be looked upon as a powerful means of exciting labour and producing efficient expulsive contractions of the uterus, because the same set of associated organs are in action; and such is the sympathy between the stomach and uterus, that contractile efforts are easily transferred from the former to the latter, the more especially since the uterus is about to take on such action of its own accord. Again, while the emesis excites, and is accomplished in part by the associated contractions of the muscles constituting the abdominal parieties, it also produces relaxation of other parts of the system, and of none more certainly than the os uteri, under these particular circumstances. Reasoning thus, I was induced to make a trial of tartrate of antimony and potass, in doses of half a grain the first portion, and then a quarter of a grain every fifteen minutes, until emesis; as soon as the retching commenced, the uterine contractions strengthened, and the labour terminated speedily. I have frequently used the tartar emetic since, and always with the most satisfactory results.

I was not then aware that this remedy had been used by Ramsbotham, who, speaking of rigidity of the os uteri, says that "antimony, in doses sufficient to keep up a feeling of nausea, has been exhibited in these cases with marked effect."—*New York Journal of Medicine.*

Med. Gaz., March 15, 1844, *p.* 815.

129.—OBSTETRICAL PROPERTIES OF POWDER OF COLCHICUM.

M. Metta has published the case of a woman in whom the powder of colchicum was employed with success as a substitute for the ergot of rye. She had an abortion at the third month, but the placenta not being expelled, and the pains having ceased, ten grains of powdered root of colchicum were given in two doses. Half an hour having elapsed without any sensible effect, the same dose was repeated. Soon the orifice of the womb dilated, uterine contractions followed, and the placenta was removed by the hand in a state of decomposition.

London and Edin. Jour. of Med. Science, April, 1844, *p.* 359.

130.—SINGULAR CASE OF PREGNANCY.

A peasant girl, aged 15, after a violent effort, found a pain in the loins, which always increased after fatigue. Three years afterwards she perceived one day a round body, which projected from the labia pudendi, but repose and the horizontal position easily effected its reduction. She mentioned it to no one. She was married at twenty, and became pregnant two years afterwards. When she had reached the seventh month she felt great pain on account of the pressure which the displaced uterus exercised on the neighbouring parts. The term of pregnancy having arrived, and the pains commencing, an ignorant midwife kept her for four days without employing any means for terminating her labour. M. Perfetti being at last called in, and seeing the uterus hanging out between the thighs, dilated the cervix uteri by means of two incisions of about sixteen lines long, one in the anterior lip, the other in the posterior. The accouchement and expulsion of the placenta were then accomplished without difficulty. When the womb was emptied it was reduced. Then, inflammatory symptoms having disappeared under proper treatment, an elastic gum pessary was placed permanently in the vagina. For the last ten months she had no return of the prolapsus.—*Bulletin delle Scienze Midiche*, and *Gaz. Med.*

Prov. Med. Journal, Dec. 2, 1844, *p.* 180.

131.—OVARIAN DROPSY TREATED WITH IODURET OF IRON.—By Sextus Tutin, Esq., Surgeon to the Ripon Dispensary.

[Mr. H., of Boroughbridge, nearly four years ago, perceived something hard on the left side of the body, from which she occasionally suffered great pain. The tumour continued to increase in size till it became a burden to her. She was much emaciated; countenance pale and anxious, breathing laborious, a short tickling cough, pulse 135; abdomen so large that it overhung the knees to a considerable extent; at the umbilicus was a large tumour of an orange shape, and in appearance nearly transparent, in the centre of which were evident marks of ulceration taking place, with a view to the outlet of the fluid. Mr. Tutin punctured the abdomen midway between the umbilicus and pubes. He continues to relate the case as follows:—]

On my examining the abdomen, I found an enormous tumour, the size of an adult head, occupying the left side, a little above the anterior superior spine of the ileum, of an irregular shape, perfectly hard, and appearing to give her great pain when pressed on. From its situation, and the symptoms attendant upon it, I considered it to be a disease of the left ovary. A long flannel bandage was passed round the abdomen; she was ordered to keep perfectly quiet, and to take the following remedies:—

Blue pill, three grains; powdered squill, two grains; powdered digitalis, one grain; opium half a grain, three times a-day. With two table-spoonfuls of a diuretic mixture.

These she continued for three weeks without much benefit. I then ordered her to take 15 drops of the compound tincture of iodine thrice daily, and to rub the ointment of iodide of lead over the abdomen night and morning.

But from this proceeding she obtained little or no relief. The fluid began to increase rapidly, and on the 20th of September, I tapped her a second time, taking away seventy-five pints, being three pints more than what was evacuated on the first occasion. The fluid was perfectly clear and aqueous; the tumour appeared rather diminished in size, but still painful. I now prescribed for her the ioduret of iron in two grain doses three times a-day, and ordered her to continue the ointment. After taking this about a month, there appeared evident signs of amendment in her general health, but the fluid began again to accumulate, though not so rapidly. On the 5th of December, I again performed the operation, taking away sixty-five pints. The tumour now appeared much less, and not so painful to the touch. She was ordered to continue her remedies, and to take three grains of the ioduret of iron

thrice daily, as she appeared to be improving under its influence. Her cough was much abated, the breathing more free, her appetite improved, the bowels more regular, and the urine much increased in quantity; the pulse was reduced to 105; in fact, her general appearance was greatly altered for the better. I saw her again about a month after; she had regularly taken her medicine, and was much improved in appearance, but the fluid was evidently on the increase. I requested her to persevere with her remedies, and to let me know, should the fluid again require to be evacuated. Early in April, the Rev. Mr. A., who lives opposite to my patient, called upon me, and told me that a very curious circumstance had occurred, which was, that my patient had literally burst, and flooded the room in which she was sitting. He had come over purposely to request I would go over and see her, which I did. On my arrival, I found what he had told me was really the case; the tumour at the umbilicus had given way, and a great portion of the fluid had escaped. The neighbors were so much alarmed that they sent for a medical practitioner in the town; he readily attended, and secured the parts with strips of adhesive plaster and a bandage. On examination, I found that the tumour at the umbilicus had given way at the part where the ulcerative process had commenced; I secured it by means of a pyramidal plaster and bandage, passed several times round the abdomen. The tumour in the abdomen had diminished considerably; her cough had nearly disappeared; her breathing was perfectly free; the pulse was reduced to 95, her appetite good, the bowels regular, and the secretion of urine much increased; her general appearance was altogether much improved. I advised her to continue the medicine, increasing the dose of the ioduret to four grains thrice daily until I saw her again, which was in the beginning of May; she was then better; still the fluid had increased in some degree, but not to the extent it had done on former occasions. The tumour was diminished in size. She was ordered to persevere with her remedies.

I saw her again in June; she was so altered in her appearance that I scarcely knew her as the same individual. She said she had walked, on two or three occasions, about half a mile out of the town, and could make herself useful in the house, which she had been unable to do for upwards of three years. The fluid had considerably diminished, and the tumour also. I still requested her to persevere with the remedies, which she did until August, when I had the pleasure of seeing her at my house, (in Ripon), so much improved in appearance as quite to astonish me. Once pale and emaciated in the extreme, she now bore the aspect of an individual in the enjoyment of sound health. I again examined the abdomen, and found the enormous tumour diminished to less than one-fourth its former bulk; the fluid had entirely vanished; the catamenia had appeared on two occasions; her cough had entirely ceased; the breathing was perfectly free; the appetite good; her bowels regular; the pulse natural; she had recovered her usual muscular appearance, and said she had not been so well for some years. She had been out making hay during the summer, and felt no inconvenience from it. I advised her still to take one dose of the ioduret daily, which she did for some time.

She called upon me the following spring, and was in the enjoyment of good health. She told me that she had done all the work in the house for some time, had got up in the mornings at two o'clock to wash, and that she thought of commencing a school for the benefit of herself and children. I have seen her twice since the above period; the last time was on the 13th of September. She said that she continued quite well; the abdomen was reduced to its natural size; she is capable of undergoing her accustomed avocations without inconvenience; in fact, she declares that she never was in better health. [*Prov. Med. Jour.*, *Nov.* 11, 1843, *p.* 107.

tioner, from the *Library of Medicine*, which will enable any one, with the greatest ease, to satisfy himself respecting any of the more common urinary deposits. (4.) But for the detection of sugar in the urine we recommend the reader particularly to consult the paper of Dr Golding Bird. Of course, the presence of sugar in the urine can at any time be proved by chemical analysis: but this is too troublesome, and even difficult, for men in active practice to adopt. We must therefore be ready with more easy methods of investigation: otherwise the case will often be overlooked. Dr. Bird has placed before us the different tests which are generally the best and the most easily adopted. He first mentions *Heinefeld's test*, which, however, is too uncertain to be of any practical value. Perhaps the best test is the one called *Trommer's test*. This, which is the latest test suggested for the detection of sugar, is as follows:—"Add to the suspected urine, contained in a large test tube, a few drops of a solution of sulphate of copper; a very inconsiderable troubling generally results, probably from the deposition of a little phosphate of copper. Sufficient liquor potassæ should then be added to render the whole strongly alkaline, a greyish-green precipitate of hydrated oxide of copper falls, which, if sugar be present, wholly or partly redissolves in an excess of the solution of potassa, forming a blue liquid, not very unlike the blue ammoniuret of copper. On gently heating the mixture, nearly to ebullition, the copper falls in the state of sub oxide, forming a red and copious precipitate. If sugar is not present, the copper is deposited in the form of black oxide." This seems to be a most delicate test for the presence of sugar, and will readily detect it in the urine, even when very largely diluted. The other tests are, by *the growth of torula*, by *the development of fermentation*, and *Runge's sulphuric test*, all of which are well described by Dr. Bird, in article 5. (5.)

Dr. H. Bennet points out the success which, in the French hospitals, has attended the exhibition of large doses of nitrate of potash in rheumatism. This subject has repeatedly been before the profession, but, as certain eminent practitioners have suspected that these large doses of the medicine may occasionally have been the cause of inflammation and suppuration of the kidney, it is necessary to explain that this will never be the case when the medicine is sufficiently diluted. Dr. H. Bennet says, that when sufficiently diluted, one, and even two, ounces may be taken in twenty-four hours, while half an ounce might act as an irritant poison if given in a very concentrated form. M. Gendrin, of Paris, thinks more highly of large doses of nitrate of potash in acute rheumatism, than of any other medicine. His doses vary from 6 to 12 or 15 drachms in the twenty-four hours; and Dr. H. Bennet says that he has treated, or seen treated, at least 70 or 80 cases by this method. It must be dissolved in the proportion of half an ounce of the nitrate to one and a half pint or two pints of barley-water or some other bland liquid. This may be the only beverage of the patient, and taken as required. The action of the medicine seemed to be *sedative*, the pulse falling rapidly, both as regards frequency and strength, and its good effects are probably owing to this circumstance. The effect of the drug is confirmed by the experiments of Orfila. When it was given to dogs death was preceded by giddiness, slight convulsions, dilated pupils, insensibility, and palsy. Dr. H. Bennet has found this medicine beneficial, not only in acute rheumatism, but also in puerperal fevers, and in other inflammatory affections, in which he has given it in doses of an ounce or more in twenty-four hours. (6.)

There are many diseases in which periodicity in the attacks or paroxysms is evident, and which has led Dr. Mayo to make use of similar treatment to that adopted in ague. For example, a lady who consults her medical man for general debility and emaciation, with a regular and periodical attack of pain and oppression of the head, which may come on about the same time, and last three or four hours. She may have had ague previously. In such a case Dr. Mayo would give 50 drops of tinct. opii. an hour before an expected paroxysm; or, what we should recommend, we

petent to form and to maintain an opinion in contradiction to this eminent chemist. Dr. Aldridge, of Dublin, maintains that the views advanced by Liebig and others on some subjects connected with urinary deposits, are erroneous. He asserts, "that in disease the urine is more frequently characterised by alterations in *the quantity of water excreted* than by changes in the proportions of its essential organic elements; and that a deposit of lithates, in a case where there is excessive secretion from no other organ, is the sign of an irritation, either primary or secondary, of the renal substance." Hence he maintains that the common opinion is erroneous which attributes the formation of lithic acid deposits to certain kinds of food, atmospheric influences, and particular constitutional predispositions; and he disbelieves altogether in the existence of lithic acid and phosphatic diatheses. "Whenever the quantity of water in the urine becomes diminished below the minimum necessary for holding in solution the sparingly soluble lithic acid, or super-lithates, at a given temperature, those substances will become deposited at that temperature, provided the urine be sufficiently acid." This quantity of water in the urine may become diminished by various causes, as by the increase of perspiration, and by some irritation of the kidneys; and when in consequence of this, lithic acid becomes deposited, it gives rise to an increased irritation or subacute inflammation in the tubular cutical substance of the kidneys, which is generally followed by a cachectic state of the system, and the urine then ceases to be acid. When the urine ceases to be acid, it can no longer hold the earthy phosphates in solution, which then become deposited on any substance in the urinary passages. If these views be correct, it will be evident that the treatment required for the lithic acid diathesis will be to remedy those affections which produce diminution of the quantity of water in the urine. But for our own part we should not like to trust entirely to this mode of treatment, but should combine it with the alkaline medicines which are in common use. It will, however, be a useful suggestion to remember that the bicarbonate of potash and other alkaline medicines will be more efficacious when given in much larger quantities of water than are usually recommended. (2)

Dr. Heaton, of Leeds, has published a series of interesting cases of albuminuria, which occurred in the University College Hospital, under the care of Dr. Williams. There seems to be a certain analogy, according to Dr. Williams, between various organic diseases of certain viscera, as tubercle in the lungs, cirrhosis of the liver, granular degeneration of the kidney, and opacity and thickening of the valves and membrane of the heart, all of which are regarded as the result of a deposit of lymph, of an imperfectly organizable character, such lymph showing a strong tendency to induration and contraction subsequently to its deposition. Hence we may suspect that when one of these diseases is present we will find analogous affections in the other organs which are disposed to receive these depositions. And the cases detailed by Dr. Heaton are valuable in proving this to be the fact. Granular disease of the kidney was found to be connected with tubercle of the lungs, and with a cirrhose state of the liver; also with diseased valves of the heart, and with tubercular deposit on the peritoneum. When the proper texture of the kidneys is thus supplanted by a deposit of lymph of an imperfect character, we can easily see how their functions may be changed. If these organs possess the property which Dr. Prout assigns to them, of exerting a disorganizing influence on the materials to be discharged from them, this morbid deposit will so alter their powers that the fluid part of the blood will be poured out as through a mere filter, retaining more or less of its albuminous character. (3.)

While on the subject of affections of the kidneys we may refer to our fourth article, in which all the best tests for diseased states of the urine will be found. The practitioner is often at a loss, at the moment, for some simple directions to guide him in detecting the different deposits, and for this reason, we have placed before him the table constructed by Dr. Griffith, and appended to it that excellent epitome on this subject, by Dr. Chris-

recovery may evidently be dated from the time she began with the naphtha. She finally recovered completely. (10.)

There is perhaps no disease which requires a greater variety of treatment than tic douloureux. This is owing not only to the great many causes which may produce the affection, but especially to the different pathological conditions which may exist; each of which may require a particular mode of treatment. Dr. Watson draws our attention to that troublesome kind of *face-ache* which hardly amounts to neuralgia, but which is quite troublesome enough to make life miserable. It generally attacks the upper or lower jaw, and is often supposed to be owing to bad teeth. Dr. Watson recommends the *muriate of ammonia*, which will often cure when other things have failed. It may be given in half drachm doses, dissolved in water, three or four times a day, but if it does not speedily produce some good effects it is of no use to persevere with it. The iodide of potassium will often produce remarkable results in these cases, giving rise to the suspicion that the affection may have been periosteal. M. Ducros brushes the soft palate over with strong solution of ammonia, so as to occasion a profuse discharge of tears and saliva; and Dr. James Johnson has found the internal exhibition of the same remedy of great value in these pains of the face, and in severe nervous head-ache. He mixes from twenty to forty drops in a cupful of very thick gruel, to be given at any time when a paroxysm of pain comes on. Another remedy which has lately been used more than usual in these cases is the solution of arsenic, which may probably be especially useful when the attacks of pain come on periodically, which is very often the case. We shall find the success of this medicine most evident in persons of lax fibre and languid circulation, whose secretions are rather profuse than otherwise, and urine pale and plentiful, and whose skin is cold and moist. It is necessary always to bear this in mind, as it will act prejudicially when the urine is of a deep colour and scantily secreted, or when it deposits the lithate of ammonia. At first we should commence with two or four minims of the liquor potassæ arsenitis, which may be given three times a-day, combined with double the quantity of the compound tincture of camphor, and if acid be present, with a few grains of bicarbonate of potash and an additional minim of the arsenical solution being added daily, until some effect is produced. It will often be necessary to persevere for some months with this medicine. (11.)

In the treatment of asphyxia in new-born infants we ought accurately to discriminate between that produced by actual congestion in the vessels of the brain and that produced by the violent shocks and actions of the womb, the first causing the symptoms of compression, and the latter concussion of the brain. When a child is born with its face of a purple or blue colour, its features bloated, and slow or totally impeded respiration, we suspect the cause to be congestion, and by allowing a little blood to escape from the cord, the symptoms are often relieved in a remarkably short time; on the other hand, when the child is born pallid and relaxed, with a very feeble circulation, we must be careful not to take away blood till the circulation has been stimulated to increased activity by the warm bath (although we beg to doubt the efficacy of heat in such cases), the cold douche, ammonia applied to the nostrils, galvanic shocks passed through the cardiac region, &c., and as Joerg has pointed out, that in a rapid delivery the lungs will sometimes not have time to be prepared for their new function, we ought, in such cases, never to tie the cord, so long as pulsation exists in it, till respiration be established. For many other very useful suggestions in these cases we refer the reader to Dr. Doherty's paper on the subject. 12.)

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better substitute, a quarter, or half a grain of the acetate or muriate of morphia; and, after the paroxysm has subsided, five minims of liquor arsenicalis, every sixth hour. This kind of treatment would, however, chiefly be beneficial, when the disease, for which it was prescribed, was periodical in its attacks. Another class of cases is sometimes met with, in which, after a regular quotidian, for many months, the usual expected return of the paroxysm is, perhaps, substituted by an attack of epilepsy. In such a case it is evident that the usual treatment by bark, or steel, or arsenic, would be rather injurious than beneficial. In short, we think, with Dr. Mayo, that the subject of masked intermittents has not been sufficiently attended to; and that many lingering diseases, if watched attentively, will be attended with periodicity in the paroxysms, and will be curable by the means usually employed in ague. (8.)

In a case of asphyxia, related by Dr. Shearman, of Rotherham, we have some very sensible remarks as to this treatment. It was that of a man who had hanged himself, and was in a complete state of suspended animation; he neither breathed, moved, nor had any perceptible circulation. "The treatment, in such a case, would be to bleed the patient, if possible, without taking heed to the imperceptible pulse; and it is certainly better to take blood from a vein than from an artery. It will generally be noticed that in the act of taking blood the pulse will rise instead of sinking, and, by-and-by, the patient, if not quite dead, will begin to breathe. What is the cause of asphyxia in such a case? Probably, as Dr. Shearman remarks, a combination of suffocation and apoplexy. So much pressure is made by the cord round the neck, as to prevent inspiration, so that immediately the lungs, right side of the heart, and veins, would be congested; part of the venous blood sent to the lungs through the pulmonary artery, would be oxygenated during the first inspiration; but when the next systole of the heart took place, it would be venous; and, when thrown out of the left ventricle, would act as a poison to the brain, and prevent the respiratory nerves from exciting the muscles of respiration; at the same time the ligature round the neck prevented the venous blood returning from the brain, and thus produced apoplexy." We think that, in such a case, the great object is to take away the blood, either from an artery or a vein; but, if possible, from a vein, as this would be relieving the brain of some of its poisoned venous blood, and would not, at the same time, prevent that organ being fed and stimulated by the arterial blood. It is surprising to what an extent asphyxia may proceed, and yet recovery may be accomplished by energetic treatment. In a case related by Mr. Bree, of Stowmarket, this was the result, although the man appeared quite dead. "His face was swollen and black with congested blood, the eyes starting forwards, and the tongue protruding. The surface was cold, and the action of the heart not to be felt with the hand." (9.)

Since the use of naphtha was recommended by Dr. Hastings and others, we have tried it repeatedly in cases which we considered tuberculous, but we must say that in every such confirmed case of tubercular disease we have been disappointed in its efficacy: not so, however, in many cases of chronic bronchitis, in which, we believe, it may prove beneficial; but not sufficiently so to induce us to alter the more ordinary mode of treating such cases. It is our duty, however, chiefly to place upon record the opinions of others rather than our own, when such opinions seem to be founded on well authenticated cases; and for this reason we have published in this volume the opinions of Dr. Hastings, of London, with those of Mr. Wilson, on the same subject. The latter gentleman publishes the case of a lady who had been, for three years, in close attendance on her husband, who died of phthisis. She herself became affected with all, or most of the symptoms of the same malady, and was pronounced by more than one practical stethoscopist the subject of fatal tubercular disease. She began with ten drops and gradually increased to sixty drops of the naphtha, three times a-day. The dose was ultimately reduced to forty drops. The commencement of

recovery may evidently be dated from the time she began with the naphtha. She finally recovered completely. (10.)

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In the treatment of asphyxia in new-born infants we ought accurately to discriminate between that produced by actual congestion in the vessels of the brain and that produced by the violent shocks and actions of the womb, the first causing the symptoms of compression, and the latter concussion of the brain. When a child is born with its face of a purple or blue colour, its features bloated, and slow or totally impeded respiration, we suspect the cause to be congestion, and by allowing a little blood to escape from the cord, the symptoms are often relieved in a remarkably short time; on the other hand, when the child is born pallid and relaxed, with a very feeble circulation, we must be careful not to take away blood till the circulation has been stimulated to increased activity by the warm bath (although we beg to doubt the efficacy of heat in such cases), the cold douche, ammonia applied to the nostrils, galvanic shocks passed through the cardiac region, &c., and as Joerg has pointed out, that in a rapid delivery the lungs will sometimes not have time to be prepared for their new function, we ought, in such cases, never to tie the cord, so long as pulsation exists in it, till respiration be established. For many other very useful suggestions in these cases we refer the reader to Dr. Doherty's paper on the subject. 12.)

There are few subjects which require greater discrimination than the treatment of a gouty diathesis. It ought to be remembered that food is not the only source of lithic acid; this may arise from a disintegration of the tissues. Liebig considers that the lithic acid is generally derived from this source, while Prout and Wilson Philip think that it arises chiefly from the chyle. There seems to be little doubt that it may, and does arise from both

these sources—that it can be derived both from the albuminous tissues and from an excess of the matter of the chyle, taken into the blood beyond what is required for the nutrition of the tissues. "The truth appears to be," as Dr. B. Todd says, "that the development of this substance may take place from the imperfect assimilation of the food, quite irrespective of the ulterior changes in the system, or it may occur from certain changes in the system, whatever may be the nature of the food." The first of these opinions is proved by the great quantity of lithic acid which will sometimes be deposited after an improper or indigestible meal, and the second, by the same deposit occurring during the course of some deep-seated disease, as of the liver, quite independent of, and notwithstanding every care respecting the kind of food taken. With respect to food it is evident that such as will most discourage the formation of lactic acid in the stomach and duodenum will be the best, such as regulated quantities of animal food with a small quantity of vegetables, and especially the avoidance of those saccharine and other vegetable products which may be prone to the acetous fermentation. It is proved that bread, and the ordinary vegetables, contain the same azotized nutrient principles as animal food, but we must take a much larger quantity to obtain the same amount of nutrient material. In the treatment of the gouty diathesis, these principles are of the first consideration. In an attack of this disease we ought to remember that it is one means of eliminating gouty matter from the system, and therefore its management requires great caution. It is too common to begin immediately with colchicum. This ought, however, not to be administered at the onset of the disease, till the bowels have been properly cleaned out, nor ought it to be given in the asthenic form of disease, and when it is given it ought to be commenced in small doses, gradually increased, except indeed in some cases of rheumatic gout, in which much larger and earlier doses have been attended with benefit; when the joints continue in a state of inflammation, Dr. Todd recommends a succession of small blisters or the iodine paint, composed of one drachm of iodine, half a drachm of iodide of potassium, dissolved in an ounce of spirit of wine. This may be painted over the parts occasionally, and will be found very useful where any effusion has taken place into the synovial membrane or sheaths. In the treatment of rheumatic fever we must bear in mind that the three channels which are the most favourable to the elimination of rheumatic matter, are the bowels, the skin, and the kidneys. It is probably owing to the effect on the kidneys that the value of nitrate of potass is owing, as well as to its remarkable *sedative* power, so well explained by Dr. H. Bennett. In the French Hospitals this medicine seems to be given in excessive doses, eight or twelve drachms daily, and would no doubt produce great irritation, were it not dissolved in a large quantity of liquid. Its sedative powers might probably be increased by combining with it tartarized antimony in minute doses. Dr. Todd recommends five or six grains of nitrate of potash with one-eighth of a grain of tartarized antimony, with a little laudanum if necessary, every four or six hours. He, moreover, in common with most practitioners, places great confidence in opium, which ought to be given at least every night, and in the day, if necessary, unless some other symptom contra-indicate its exhibition. (14.)

On the subject of articular rheumatism, we have also some remarks by Dr. Monneret, who in 52 cases tested the relative efficacy of colchicum, nitre, and blood-letting. He disagrees entirely with the good opinion of some respecting the power of nitre, both as to its sedative and other effects. He places more reliance on drachm doses of the tincture of colchicum three or four times a day, and early blood-letting. (20)

In some cases of retention of urine, especially in old people dependent on partial or complete paralysis of the bladder—and when there has been a good deal of distension, we shall find the ergot of rye of great use. It has been used in such cases for some years, but has not been sufficiently known or confided in. It will be necessary, however, to be careful in administer-

ing it when there is any organic disease, either of the bladder or prostate. The dose may be at first 10 grains every morning, increased to 15, 20, or 30 grains. After a time this should be again diminished, or even left off for a few days. The urine should at the same time be drawn off when required. In many cases the bladder will recover its power in a great measure; but about six or eight ounces of urine may remain within it from its inability to empty itself. In this case we shall find six or eight grains of the ergot given three times a day will be of great use. But in all these cases of paralysis senilis, we ought to remember that the frequent emptying of the bladder alone will occasionally give nature an opportunity to recover her energy. This practice is corroborated by interesting cases both by Dr. Houston and Dr. Hargreave; and in another case referred to by Dr. O'Beirne, the bladder did not recover its tone till nearly a quart of cold water was injected into it, and from the moment this was done, the patient recovered his power. This medicine has not only been found valuable in these cases, but also in different hemorrhages. *Ergotine* is an extract prepared from the ergot of rye, and in France this is rather a popular form of administering it It is there considered almost a specific against hæmorrhage in general, including menorrhagia and vomiting of blood, and in St. Bartholomew's Hospital the secale cornutum is used with success in *pulmonary* hæmorrhage, in doses of a scruple every hour for some hours. (23.)

We have repeatedly called the attention of the profession to the cases published by various medical men, of the success of electricity in poisoning by laudanum. Another case of this description is recorded by Corfe. The patient had taken an ounce and a half of laudanum the preceding evening, and on his admittance into the Middlesex Hospital, was to all appearance a lifeless corpse; and after all the more ordinary remedies had been tried in vain, Mr. Corfe thought of the electro-magnetic battery, conjointly with electricity. After this had been acting upon him for a time the pulse became more steady, firm, and frequent, and the respirations more indicative of resuscitation. A powerful electrical machine was also got into full play before a large fire: brilliant sparks and strong shocks were occasionally passed through the head, spine, thorax, and abdomen. By these means the whole body was thrown into violent and convulsive succussions and muscular contortions; and after an hour's application the man suddenly aroused up with the amusing exclamation, "Holloa! you rascals, what are you trying specimens upon me for?" (40.)

It will not be necessary for us to swell our pages by recapitulating those various suggestions which are embodied in the shorter articles on "Practical Medicine;" we will therefore pass on to the most important improvements, which have recently been suggested in the practice of Surgery.

In the lectures of Sir Benjamin Brodie, lately published, we find scattered throughout, some of the most useful advice on the more common subjects of surgery, such as the general practitioner is constantly in the habit of encountering. We are too much in the habit of lending our attention to rare cases, rather than endeavouring to find out what is most useful for the ordinary evils of life. The reputation and success in life of a practitioner will oftener depend upon his success in treating fifty cases of common occurrence than one or two cases which require capital operations.

What is the best way of removing a polypus from the nose! A ligature can seldom be applied properly; neither can the operation be safely done with the knife, and seldom with the scissors. The forceps, made for this purpose, is no doubt the best instrument. The whole of the opposite surfaces of the blades ought to be quite rough, convex above, concave below, opening laterally; sometimes opening from above downwards. The forceps should be oiled and warmed, the polypus caught by the base, and the instrument cautiously closed. The part should then be not only pulled gently forwards, but twisted a little to each side and then pushed backwards—again twisted a few times, first in one direction and then another, and at last it should be pulled forwards with some force, when it will generally

come away entire. It is too often the case that when the neck of the polypus is laid hold of by the forceps, the surgeon suddenly extracts, without the repeated twistings in all directions so strongly recommended by Sir B. Brodie. It is owing to the neglect of this simple procedure that a great portion of the polypus is often left behind. When the diseased part has been removed, Sir B. Brodie recommends that the parts should be painted over every day, by means of a camel's hair-brush, with white precipitate ointment. The unguent, hydrarg. nitrat. diluted may also be used, but this causes more irritation than the white precipitate, and does not answer so well. The white precipitate ointment should be applied regularly, not for a few days or weeks, but for years. This should be done effectually; not by just brushing over the parts which are most external, but by smearing the whole surface of the nostril both upwards and backwards, even as far as the pharynx. Astringent lotions may also be used, as zinc or alum. Sometimes the polypus is of a more fleshy nature and attached to the nose by a narrow neck, like those of the uterus and rectum. When this is the case it may be snipped off with a pair of probe-pointed scissors, slightly curved. Nitrate of silver may be applied to the part, and it is probable that it may never reappear. Some polypi, however, it is absolutely necessary to remove by ligature; as in a case related by Sir B. Brodie, in which there was an enormous tumour projecting the velum pendulum palati forward to the mouth, so that the finger could only just reach its lower margin.

In such a case there would be great difficulty in applying a ligature, and it will be evident at once that it would be almost impossible to remove the mass either by the forceps or the scissors. Sir Benjamin Brodie recommends that a bougie be passed into that nostril from which the polypus is supposed to rise, and pushed forwards into the pharynx. The finger is then to be passed to the back of the throat, and the bougie bent so as to bring one end out at the mouth, to which is to be fastened a double ligature. The bougie is then withdrawn from the nose, and of course the ligature follows its course. The ligature is then cut off from the bougie, and the two cut ends hang out of the anterior nostril over the upper lip, the loop at the opposite end hanging out of the mouth. The next step is to get the ligature over the tumour. "For this purpose you cut through the loop hanging from the mouth, so that there are now two single ligatures. One end of the single ligature is to be passed through a silver tube, and putting the tube into the mouth and pharynx, you carry one end of the ligature under the base of the tumour on one side of it. You leave that out of the mouth, and your assistant holds both ends of the ligature, to prevent it from slipping; then with the same silver tube you are to take hold of the other loose ligature at the mouth, and carry that on the other side of the polypus, and there your assistant is to hold it. A knot that will not slip must then be made of the two ends of the ligature that hang from the mouth. You have now a ligature on each side of the polypus, and then by carefully drawing the ligatures out at the end of the nose, you have got hold of the polypus at its base. A silver tube is then to be introduced into the nostril, and you tighten the ligature upon the shoulder of the tube in the same manner as you tighten a ligature on polypus of the uterus. It must be tightened every day till you have completely cut through the polypus." The polypus, however, should be secured by a ligature, so that when loose, the patient may draw it out, instead of being in danger of choaking. But the method adopted by Desault is perhaps still more convenient. "You require a silver tube by which the ligature is to be directed into the mouth, a short silver tube to be introduced into the nostril for tightening the ligature, and two pretty long ligatures. You introduce a bougie into the nostril and bring out one end at the mouth. To this you fasten a single and a double ligature; the single one must be very long. This being done, the bougie is to be drawn out at the nose, and of course the ligatures follow it. You then cut off the bougie, and you have the two ends of the double ligature hanging out of the nose, and the loop hanging out of the mouth; one end of the single ligature also hangs

out of the nose and one end out of the mouth. The single and the double ligature always pass on one side of the polypus; but by means of a silver canula you draw the single ligature to the other side of the polypus. The ligature being held in its place by an assistant, the end of the single ligature projecting from the mouth is passed through the loop of the double ligature, and the ends of the double ligature being drawn out of the nose, the single end follows, and you make a ligature which you fasten by means of a canula introduced into the nose." This method of Dessault's is certainly preferable to the one first described.

Another disease referred to by Sir B. Brodie, which is not very uncommon in private practice, and which is not dwelt upon by authors, is a soft elastic tumour on the tongue, which is often mistaken for cancer. In this tumour there may form a little matter, which at last escapes and leaves an ulcer. A probe can often be passed obliquely to some distance. More ulcers than one may exist on different parts of the organ. In this disease Sir B. Brodie recommends a solution of arsenic, beginning with five minims, and gradually increased to ten, three times a-day. This should be given till it begins to produce some of its poisonous effects on the system, such as a sense of heat, a burning pain in the rectum, or griping, purging, and sickness. Of course the patient ought to be narrowly watched, and the medicine relinquished when these symptoms come on. When these symptoms subside, we may recommence the medicine, if necessary.

On the subject of *fistula in ano*, Sir B. Brodie makes some remarks which throw rather a new light on the cause of the difficulty in healing the abscesses in the neighbourhood of the anus. It has generally been supposed, till lately, that the healing process was prevented chiefly by the irregular action of the sphincter and levator ani muscles; this opinion, however, is now found to be incorrect. The true reason seems to be some ulceration in the mucous membrane of the bowel, within a short distance of the anus. We know that an ulcer may simply perforate the mucous membrane without penetrating through either the muscular or peritoneal coats; or it may perforate through the mucous and muscular only, or through all three. Sir B. Brodie thinks that fistula in ano arises originally from ulceration of the mucous membrane, extending through the muscular tunic into the cellular membrane external to the intestine. This is of the greatest importance to know, not only in a pathological but in a practical point of view; because if in all, or most cases, there be an ulcer of this nature, it is evident that an operation will be of little use, unless the small ulcer situated more or less up the bowel be discovered and included in the operation. Sir Benjamin says he is persuaded "that the inner opening always exists; and he never fails to find it when he feels for it in the right place, which is generally, if not always situated immediately above the sphincter muscle, just the part where the fæces are liable to be stopped, and where an ulcer is most likely to extend through both the tunics." The most common cause of abscess of this kind is the lodgment of hard fæces in the bowel; by the straining which is necessary to expel them the mucous membrane is torn or abraded, and then the passage of the fæces causes ulceration. Although the internal ulcer is generally just above the sphincter, the abscess will often extend much higher, a probe may pass for one, two, or even four inches up the side of the bowel.

There may also appear to be more abscesses than one, there being several openings externally, but it is important to know that the whole cause of the mischief is the one ulcer just above the sphincter, which is perpetually allowing bits of fæces to escape through it, and thus keeps up the mischief. Cases are recorded in which the internal orifice has evidently healed up as the fistulæ have healed. This has occasionally been accomplished by the long-continued use of Ward's paste, the confectio piper. nigr., which acts as a stimulus to the part, and may eventually cause the ulcer to heal. But the best art of curing fistula seems to consist in finding the small ulcer which has given rise to the disease. This opening is too often looked for in the

upper part of the sinus, which, if high up, is never the proper place to find it. It must be sought for immediately above the sphincter muscle. To find this opening it is better also to use a probe with a flat handle, so that we may know in which direction we are pushing it when bent: it is better also to have probes of different sizes. In feeling for the internal orifice we should pass the finger into the rectum, and just above the sphincter we shall often find a little irregularity, which is the place where the orifice is probably placed. The probe, which ought to be grooved, is then to be introduced into the external wound, and by a little manipulation the opening into the rectum will be found. The probe may now be passed into the bowel, and by means of the finger its point may be brought out at the anus, taking care to have the groove of the probe downwards, or in such a direction that the scissors or knife may be easily guided along it. Sir Benjamin Brodie generally makes use of a pair of curved knife-edged scissors to divide the parts. It has long been supposed necessary, when the abscess extended to some distance up the side of the bowel, to lay open the whole sinus into the rectum; but this may be a frightful operation; it is not known what vessels may be divided, and it is altogether an unnecessary operation, as the case will generally be cured by simply finding the internal ulcer, and dividing all the parts between that and the skin, in the way just recommended. (65.)

The variety of methods recommended to treat vesico-vaginal fistulæ would almost puzzle us to know which to select as the best. A great deal would of course depend upon the size of the orifice; a large one, it has hitherto been a most difficult thing to cure. Dr. Keith, of Aberdeen, has had a very singular case, which may be the means of suggesting some practical improvement in those cases in which all the ordinary methods have failed. His patient had such a large fistula of this kind, that for seven years she plugged it up with a *pint bottle cork*, and was thus enabled to pass her time with comparative comfort. The cork, however, at last slipped into the bladder, and the urine again passed through the orifice. After a time, however, she began to suffer from symptoms of stone, and this body seemed to act like a *bullet valve* to the fistula, for the urine again began to pass by the urethra, and the fistula, in about nine months, became considerably contracted in diameter. She suffered so severely from the stone, however, that it was necessary to crush, and evacuate it. The urine again passed through the fistulous orifice, which, however, had become sufficiently small to allow of a button-headed cautery, at a white heat, to be applied so as to cause a slough, including the edge of the false opening all round. This checked the passage of urine, and in six days the cautery was reapplied, and again in sixteen days. In three weeks there was an oozing of urine, and the cautery was again applied as before. This cured the case completely. From observing the peculiarities of this case, Dr. Keith suggests that in those large fistulous orifices, which are too wide to expect success from cauterization, we should employ some artificial bullet-valve of a smooth and unirritating nature, and of sufficient weight to keep the orifice blocked up from the bladder, so as to favour the contraction of the edges of the wound, and for this purpose he recommends a small thin bulb or bag of India-rubber, filled with mercury. Should incrustation happen in the progress of the cure, a squeeze with a screw lithotrite, or percussor, or a long œsophagus forceps would throw it off, and at last when the opening had contracted to such a size as to admit of its ready cure by the cautery, the thin bag could be easily burst or punctured, and then withdrawn by the urethra. In a former volume, we referred to Mr. Liston's practice of allowing a long interval to elapse between each cauterization, in order to give the parts, after each operation, a fair chance of contracting as much as possible: and we know, from examples of burns, to what a long period contraction may be continued if left alone. This, however, will be chiefly required when the orifice of the fistula is large, as in the above case of Dr. Keith's; and we think that if his suggestion could be carried out, a great deal of time and misery might occasionally be saved; as it will be seen that in his case a fistula

contracted, in less than nine months, from the size of a pint bottle cork to that of a No. 16 bougie. (66.)

One of the most difficult diseases to cure is, perhaps, a real conical cornea, in which its normal convexity is lost; "it consists of a transparent conical structure, apparently differing in no particular from the natural texture of the cornea, which is preceded and attended by no pain or inflammation; the cornea is prolonged forwards, and presents to the observer a peculiar dazzling, sparkling point of brilliancy, a dew-drop, or gem-like radiance, as though a piece of solid crystal were imbedded in its centre." The treatment adopted by different practitioners has been exceedingly various; leeches, calomel, evacuation of the aqueous humour, constant and well-directed pressure, breaking up of the crystalline lens, the use of a strong lens, and other means have in vain been tried to remedy this defect, and it is certain that until the external form of the cornea be changed, until this conical projection, be it a solid cone, or a hollow one, be got rid of, or nearly so, the pencils of light incident to the upper portion of its surface must be unduly refracted, producing excessive and irregular convergence, and consequent confusion in the direction of the rays of light. Mr. Middlemore hit upon a very ingenious contrivance to remedy this defect—he made an artificial pupil in another part of the iris near its margin, where the least change of structure had occurred. This suggestion has often been attributed to Mr. Tyrrel, but it will be found in Mr. Middlemore's excellent Treatise on the Eye, published in 1834; and although too frequently attended with only partial success, it was occasionally very useful.

In Dr. Pickford's masterly treatise on this subject, which will be found embodied in Article 65 of this volume, he points out his own mode of practice in some very interesting cases. This practice is founded on the suggestion of Mr. Guthrie, in the London Medical and Surgical Journal, and in his lectures in 1832; and consists in the long-continued use of emetics and purgatives. A scruple of sulphate of zinc, combined with half an ounce of Epsom salts, may be given every morning, and continued, if necessary, for twelve months: or a single grain of tartarized antimony may be substituted for the sulphate of zinc. The zinc, however, is to be preferred. If the disease depends upon some disturbance in the functions of the great sympathetic, spinal nerves, and par vagum, as Dr. Pickford supposes, producing faulty action of the nutrient capillaries and absorbent vessels of the cornea, these remedies will probably answer in many cases. (65.)

Mr. Wilde, of Dublin, has written a most excellent treatise on the causes and treatment of otorrhœa, chiefly dwelling on the affections of the external tube and external surface of the membrana tympani. There are few diseases which are more frequently neglected and carelessly treated than those of the external ear; and few which, when allowed to proceed, entail more inconvenience on a patient during the remainder of his life. In simple otorrhœa Mr. Wilde paints over the surface with a solution of nitrate of silver, ten grains to the ounce, applied with a fine camel's hair pencil, either to the whole or a portion of the surface according to the extent of the disease. This is repeated every third day, and in the interval the ear is syringed night and morning, and oftener if the discharge is copious, with plain tepid water, by means of a gum elastic bag, which, when used by friends, is much preferable to the usual piston syringe, and at night a slightly astringent lotion is dropped into the ear till it fills up the meatus, and allowed to remain there for a few minutes. For this purpose we may use Liq. Plumbi Diacet 3i. to one ounce of water or rose water; or weak solutions of alum, copper, or chloride of lime. But otorrhœa is often exceedingly difficult to cure, owing to its being caused by morbid vascular growths, such as granulations on the membrana tympani, which are allowed to proceed undiscovered. In such a case the part appears quite red and vascular, and Mr. Wilde recommends the application of the solid nitrate of silver rubbed over the part about every second day, or oftener if necessary; and for this purpose he uses a very neat little instrument which is five and a

half inches long, consisting of a silver tube, cut spirally for three-fifths of its length, and having an aperture on the side near the extremity. In using this *port-caustic*, a little nitrate of silver is melted over a lamp on a small platina ladle, and then, when about cooling, the end of the *port-caustic* is dipped into it till the aperture and extremity are filled and coated over with the caustic. We often find, however, that discharges from the ear are kept up by polypi, which it becomes necessary to remove; and for this purpose Mr. Wilde recommends a little instrument, first recommended, we believe, by Mr. W. Robertson, surgeon to the Kelso Dispensary. It is a small snare-like apparatus, consisting of a fine steel stem, with a movable bar sliding towards the handle. It is so constructed that a noose, made of fine silver or platina wire, may be pushed down to the polypus, so as to surround and ensnare it. The morbid growth may thus be safely and cautiously taken away, either in part or wholly, and by the regular application of the armed *port-caustic* from day to day, all trace of the growth may ultimately be extinguished. (68.)

It is interesting to observe the zeal which many of the German surgeons show in the cultivation of ophthalmic surgery. We hear now of an opaque cornea being improved by the superficial layers being excised. Dr. Gulz and Professor Rosas have recorded cases in which this operation was in a great measure successful, and it is possible that their skill and experience may enable them to make the operation more generally successful. It is, of course, of the greatest consequence that the cases be proper for such a proceeding. In 1833, Rosas removed several of the layers of the cornea; and in 1841, Dr. Gulz was remarkably successful in a similar operation. The eyelids being fixed, the cutting consisted in the continuous and repeated introduction of the knife, following the motion of the eye-ball, through the external layers, so gradually approximating the internal parts of the cornea. The transparent layers of the cornea were at length reached; it was then, by the use of different instruments, bared to the extent of a line and a half in diameter, the innermost layers being fortunately uninjured throughout, and consequently the anterior chamber of the aqueous humour remaining unopened. The patient could see the hands of a watch, although the cornea had been previously quite opaque; but inflammation took place in four weeks from some accidental circumstances, and nearly destroyed the good effects of the operation. This, however, was subdued, and the patient continued to see very tolerably. (69.)

Dr. Keith has advanced some opinions on the operation of lithotomy, which appear to deserve the attention of operating surgeons. Even in the first incision he thinks that many good operators commit an error in going too near the symphysis pubis, the consequence of which may be, that when the stone is grasped in the forceps, it is driven out of the hold of the operator by coming against the arch of the pubes, and he cannot as he ought, draw downwards, because the incision is not low enough. With this difficulty in view, most surgeons now make the first incision as far as is safe from the symphysis pubis; and Dr. Keith seems to extend this incision quite as far as he is warranted past the side of the rectum.

But the most important incision is the deep one; and in using his peculiar instrument, Dr. Keith was influenced by the fact, that the success of all the most fortunate lithotomists has depended upon the narrow limit to which they restricted themselves, in dividing the neck of the bladder. His instrument is "a gorget neither blunt nor sharp—an edge on it that behoved to cut through a substance so solid as a prostate gland, yet so blunt that such a tough elastic membrane as the bladder would stretch upon its edge." When the perineum is very shallow, this gorget will not be required, the bladder may be entered and the prostate notched by a knife, long in the handle and short in the blade, with its cutting edge limited to an inch and a quarter from the point; but in most cases it will be necessary to slit the neck of the bladder and prostatic urethra obliquely downwards and outwards to about half an inch, and then Dr. Keith brings his gorget into use to finish the op-

eration. This instrument has its left edge quite rounded, the other ground to an edge, and then blunted with a file; the point well rounded into a blunt button—a copy, in fact, of "Cheselden's Conductor." Dr. Keith says that by these means he insures a positive entrance into the bladder, "obviating the chance of merely dilating the *sphincter vesicæ*, as Cheselden and Martineau are alleged to have often only done; and avoiding the cutting of parts that never should be cut." (70)

In cases of fistula lachrymalis, Dr. Parrish of Philadelphia, recommends us to place more reliance on dilatation than we are at present accustomed to do. He thinks that as dilatation is so successful in stricture of the urethra, the same principle ought to be adopted in these cases. Instead of using fine catgut, as recommended by Beer, or other means mentioned by various authors, Dr. Parrish uses a bougie made of waxed linen, which he can have made of any size. It is made by dipping a piece of fine linen into white wax, in a melted state, and suddenly withdrawing it. It is then allowed to cool, and cut into portions which, when tightly rolled, form a bougie of any size which may be required. This kind of bougie may be cut or bent with great ease, and be made smaller by unwrapping, without the necessity of having a great number of sizes already prepared. After reducing the inflammation round the fistulous sore, Dr. Parrish introduces one of these fine bougies down to the strictured part, and there secures it by adhesive plasters to the external parts. This may be removed in a day or two, and again introduced, or a larger one may be used, if possible, so as to dilate the fistulous orifice, and to induce a more healthy action in the mucous surface of the sac and duct. By perseverance, the bougie may ultimately be made to pass through the whole extent of the canal, and after this, bougies of larger size may cautiously be perseverd with till the duct be sufficiently dilated. (76.)

There are few subjects in surgery with which the practitioner ought to be better acquainted than the treatment of stricture. He daily meets with it in practice. The patient will generally perceive the evil gradually increasing, and at last he will only be able to make water in a very small quantity at a time, and probably always leaves a large portion in the bladder, which gives rise to the frequent desire to empty it, followed by increased efforts. Mr. Phillips pursues a simple and an efficacious mode of treatment in many of these cases. Instead of introducing a bougie, and insinuating it into the stricture, which is too often a very difficult operation, especially when the strictured part will not admit the smallest sized gum elastic instrument, he uses a moderate-sized instrument from the first. He passes it down to the strictured part, and directs the patient to keep it firmly in contact with the stricture for an hour, if he can bear it comfortably; if not, for a shorter period. In some cases, by the end of an hour, the instrument will pass on to the bladder, in others it has to be repeated three, four, five, or six times; but it will generally succeed at last. The instrument, however, should not afterwards be introduced too often, perhaps once a day will be sufficient. It may happen that it cannot be again introduced for some days, owing to the irritability of the part, and then the stricture will be found disposed to return. The affection, in short, requires to be watched for a considerable period, and even when apparently cured, a bougie ought to be passed occasionally to ascertain that the stricture is not increasing. But the pressure of a bougie will often fail in removing the indurated matter which causes stricture. With care and perseverance, however, the patient may pass the rest of his life with comfort. Mr. Phillips' opinion of the relative value of dilatation and cauterization in these cases seems judicious. We must remember that "the mucous surface itself is not much changed at the contracted point; that the indurated product is fairly and altogether outside of the mucous surface, very much limited to the submucous tissue, but continuous with the adherent portion of the mucous tissue;" so that if the caustic be used too freely it may only injure the mucous membrane. There is no doubt that its moderate use diminishes materially the sensibility of the surface, and enables us to use dilatation with more effect and freedom;

but after all, Mr. Phillips thinks that the best plan to pursue is the prudent employment of dilatation; and he considers that the benefits which have followed the use of caustics have been more owing to the bougie and porte-caustiques employed at the same time, assisted, no doubt, by the irritation exciting the absorption of the morbid product. (80.)

Mr. Tuson has published some new cases to show the value of certain preparations of chlorine in cancerous affections. The use of chloride of zinc externally is well known, but Mr. Tuson administers it internally; he also places confidence in the chloride of lead and other chlorides given internally. In one case which he publishes there was an extensive cancerous disease of the right breast and neck, which was treated unsuccessfully for a long time, till a paste was applied, made of one part of chloride of zinc and three of flour; this was well mixed and moistened with water, and then applied over the whole of the ulcerated parts. The chloride of zinc was also given internally: half a grain was ordered every morning in a wine-glassful of carraway water. The chloride of zinc paste was applied again, and when the slough separated, the ulcerated surface healed kindly.

The cancerous disposition continued for some time, and the dose of the metal was increased to three-quarters of a grain, and continued for two months. The improvement, although very striking, was not permanent, as the patient suffered a relapse, which ended fatally. The case, however, was sufficient to show that the treatment had made considerable impression on the disease, and especially in healing the open cancer, which Mr. Tuson has found to be the result in several other cases. A solution of one drachm of the chloride of zinc to a pint of water injected upon a cancerous ulcer, or applied with linen rags, will be found a very useful application. Another case is related in which the *chloride of lead* was used. The case was one of large, irregular, open cancer of the right breast, extending deeply into the axilla, so that the pulsations of the vessels could be seen, with a foul, yellow, excavated surface, copious discharge, with much fetor and severe pain. A solution of the chloride of lead (one drachm to a pint) was ordered to be applied and kept constantly wet; and ten grains of chloride of potassium were administered in carraway-water three times a-day. Under this treatment there was considerable improvement. The solution of chloride of zinc was afterwards substituted for the lead, and although, as in the other case, the result was unfavourable, the life of the patient seemed to be prolonged. The relief also, is sometimes very great, arising probably from the application acting upon the nerves, and paralysing them. The same relief may be procured from the ointment in some hysterical affections of the breast, or nervous irritability of the gland, and in some cases where a tumour may be pressing on or involving a nervous filament. The ointment may be made with one drachm of the chloride of lead, and one ounce of common cerate. (81.)

In one of the meetings of the Westminster Medical Society, Mr. Fisher refers to the practice of treating scald head, ring-worm, &c., in Brussels. This is by an ointment chiefly composed of wood soot. The common soot of the chimney is collected, placed in a quantity of water, and macerated by a gentle heat for four days; the fluid is then strained and evaporated in an open vessel to the consistence of treacle. An equal portion of this and common lard are mixed together and applied to the part affected night and morning. The head is shaved occasionally, and thoroughly washed every third day. It is supposed that the efficacy of this ointment depends upon the creasote and pyroligneous acid which it contains; and no doubt, as Dr. Sayer observes, the good effects of the treatment may, in some measure depend on the soap, which is used in Brussels, containing more alkali than that of England. Twenty-nine years ago, Dr. Sayer observes, that the ointment then used in Brussels with so much efficacy, consisted of equal parts of charcoal, so burnt as to retain its pyroligneous acid, nitrate of potash and common brimstone, worked up with hog's lard into an unguent and

applied night and morning. The head was, moreover, washed daily with soft soap containing a great quantity of alkali, and shaved every fourth day. (82.)

Dr. Oke, of Southampton, has contrived a very ingenious tourniquet which enables the surgeon to press upon almost any one artery, without at the same time compressing the whole limb and obscuring the operation by venous blood. It consists of an arch, a pad, and a screw. The arch embraces the limb, and the pad is so placed that by means of the screw, it can be made to press upon any particular part, more effectually than when the surgeon makes use of an assistant's finger, a key, or any other such contrivance. The instrument will probably be improved by Mr. Weiss. (85.)

A singular case is related in the Philadelphia Medical Examiner, of a needle having been accidentally pushed into the right breast, and gradually working its way into the substance of the heart. This is not the first case in which such a substance has passed from one part of the cellular tissue to another, and to a very distant part, but we do not at present remember a case in which a needle or any other penetrating body was found to enter one of the internal organs. On opening the left ventricle, the point of the needle was seen protruding a quarter of an inch towards the middle of the cavity. The needle had passed at the under surface of the heart about three quarters of an inch from its apex, and half an inch from the septum, through the wall of the right ventricle, through the septum, and into the left ventricle. (88.)

In the rhinoplastic operation, when one piece of skin is transplanted, as it were, to another locality, the connecting portion is generally severed, when union of the transplanted portion has taken place, and the consequence too often is, that the nose, for example, is a poor, shrivelled appendage, owing to the new vessels not being sufficient to keep up vigorous life in the part. Dr. Keith therefore recommends that the connecting slip be allowed to remain undivided for a much longer time than is generally done, and even left undivided altogether. (89.)

In the treatment of syphilis the practitioner may now be almost at a loss in his choice of the different preparations of mercury, iodine, sarsaparilla, &c. Almost every author who has written on the subject has proposed some favourite preparation of his own. All, or most, however, have come to the conclusion that mercury, in one form or another, ought always to be employed, when the constitution of the patient will bear its influence. There may not be so much difference of opinion in the treatment of primary, as of secondary syphilis. In the former case, most surgeons now agree to destroy the affected spot if possible, before pustulation has taken place, and if this have already occurred, which is almost always the case before the surgeon is consulted, he thinks it right to mercurialize the patient for a certain length of time. Sir Benjamin Brodie, in his late lectures on this subject, directs our attention to the different non-mercurial methods of treating the disease by eminent surgeons, most of whom eventually relinquished their opinions, and were obliged, in private practice, to employ a stated course of mercury, in order to prevent secondary symptoms, &c.

For the secondary cutaneous affections, a good preparation is the bichloride of mercury, as recommended by Mr. Phillips, in doses of from one-twelfth to one-sixth of a grain twice or three times a-day, associated with sarsaparilla. It is stated, however, that when this preparation is used, the secondary symptoms are strongly disposed to recur, and it has to be re-administered, sometimes for more than one or two attacks. Its good effects, however, are so rapid, and especially when the mucous surfaces are affected, that the surgeon is, perhaps, too apt to forget its evanescent powers. On this account it is better to employ a combination of iodine and mercury—the proto-iodide of mercury—which affects the system almost as rapidly as the bichloride, without being attended with its evanescent effects. It may be given in doses of one grain daily, till the system is more or less affected. Mr. Phillips says that this medicine is more prompt in its action

than any other preparation, except the bichloride, and that its effects are more permanent.

Another most valuable remedy in secondary syphilis, is the iodide of potassium, and also the decoction of sarsaparilla.

Some practitioners have asserted, with considerable plausibility, that other medicines which have a powerful action on the capillary system, have the power to throw off the poison of syphilis, when it is producing secondary symptoms.

Mr. Smee, it will be remembered, assigns this power to tartarized antimony, in an interesting paper, published in Retrospect No. 6, p. 125. Perhaps the same result might attend the administration of arsenic, in some cases where the preparations of mercury could not be tolerated, and where milder medicines have proved to be ineffectual, as in some forms of syphilitic ulcerations. In a case of dreadful syphilitic ulceration of the palate, Fowler's solution was found of great service, commencing with three drops, and gradually raising the dose to thirty. In a well-marked case of scirrhus of the mamma, also, the ioduret of mercury has been found to exercise a marked influence.

It is, perhaps, easier to know when we ought to administer mercury, than when we ought not. In persons of a scrofulous disposition, for example, who are disposed to phthisis, it requires the greatest discrimination; in such a case, however, we may be obliged to give it, knowing how frequently tubercles are developed in the lungs after any morbid poison has been circulating. This result may consequently follow an attack of syphilis as well as an attack of measles, scarlatina, or small-pox. Sir B. Brodie prefers mercurializing a patient by *inunction*, to any other way, when the case is severe, and when the process is not inconvenient to the patient. It gripes and purges less than any other form, and is said to cure the disease a great deal better. Sir Benjamin even expresses his opinion of this method as follows:—"It does not damage the constitution half so much as mercury taken by the mouth; nay, I will go so far as to say that, except in very slight cases, you really cannot depend upon any mercurial treatment effecting a certain cure, or even giving a good chance of it, by any other means than inunction. You may very often patch up the disease by giving mercury internally, but it will return again and again, and you may cure it at last by a good course of mercurial ointment." In such a case, he recommends that the ointment be rubbed in at first before the fire, for three-quarters of an hour at a time, and afterwards for a shorter time; the patient taking great care not to expose himself to cold. Sir Benjamin further states, that we ought not to leave off the mercury as soon as the sore has healed, but to persevere in it till the hard cicatrix has disappeared. In short, he recommends us rather to recur to the old practice of using mercury in abundance, and warns us against using it too slightly, according to some modern notions. He says, "You must not suppose that we have made an advance in all departments of surgery; on the contrary, I am sure that in some we have gone back. I am satisfied that the mercurial treatment of syphilis, as employed by the late Mr. Pearson, during a great part of his life, was as nearly perfect as possible, and it was much more successful than the less careful treatment of modern practitioners." Sir Benjamin's method of using mercury in children, is, in our opinion, very judicious, as it prevents most of the griping and purging which follow the internal use. He spreads the mercurial ointment, made in the proportion of a drachm to an ounce, over a flannel roller, and binds this round the child once a-day. The child kicks about, and the cuticle being thin, the mercury is absorbed. (117–118.)

On the subject of removing diseased ovaria, we shall at present say but little. We find so many different opinions on the subject, recorded in the medical journals, that it will only be possible to come to a just or tolerably correct opinion on its legitimacy, when more cases have been recorded. We may say, however, that the feelings of the most eminent men in the profession are against having recourse to the severe proceedings which

have lately so often been adopted, and the record of cases is so far unfavourable up to the present time, that we suspect the operation will ultimately be discountenanced, both by the public and the great mass of professional men. We have no doubt, however, that there have been many cases in which the results have been highly encouraging, but it is more than probable, that out of the forty or forty-five cases which have hitherto been published, the sum of human life and happiness has not been increased, but diminished. (125)

We have omitted to refer, in this recapitulation, to many excellent articles in the foregoing pages. But these will be found to be already as much condensed as is consistent with their utility.

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